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When is the right time to consider palliative care for patients with heart failure?

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When is the right time to consider palliative care for patients with heart failure?

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1. When can we identify people who need supportive and palliative care (SPC)?

2. Can we accurately identify people with CHF who need SPC?

3. Do we have the organisational structure that can achieve this?

Background

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Identifying when to initiate palliative care in heart failure is difficult due to -

1. the uncertainty of the syndrome
2. cardiologists and palliative care teams don't always recognise the benefit of the other

Should be initiated at earliest convenient time to allow patients and relatives time to discuss their needs

illness Trajectory

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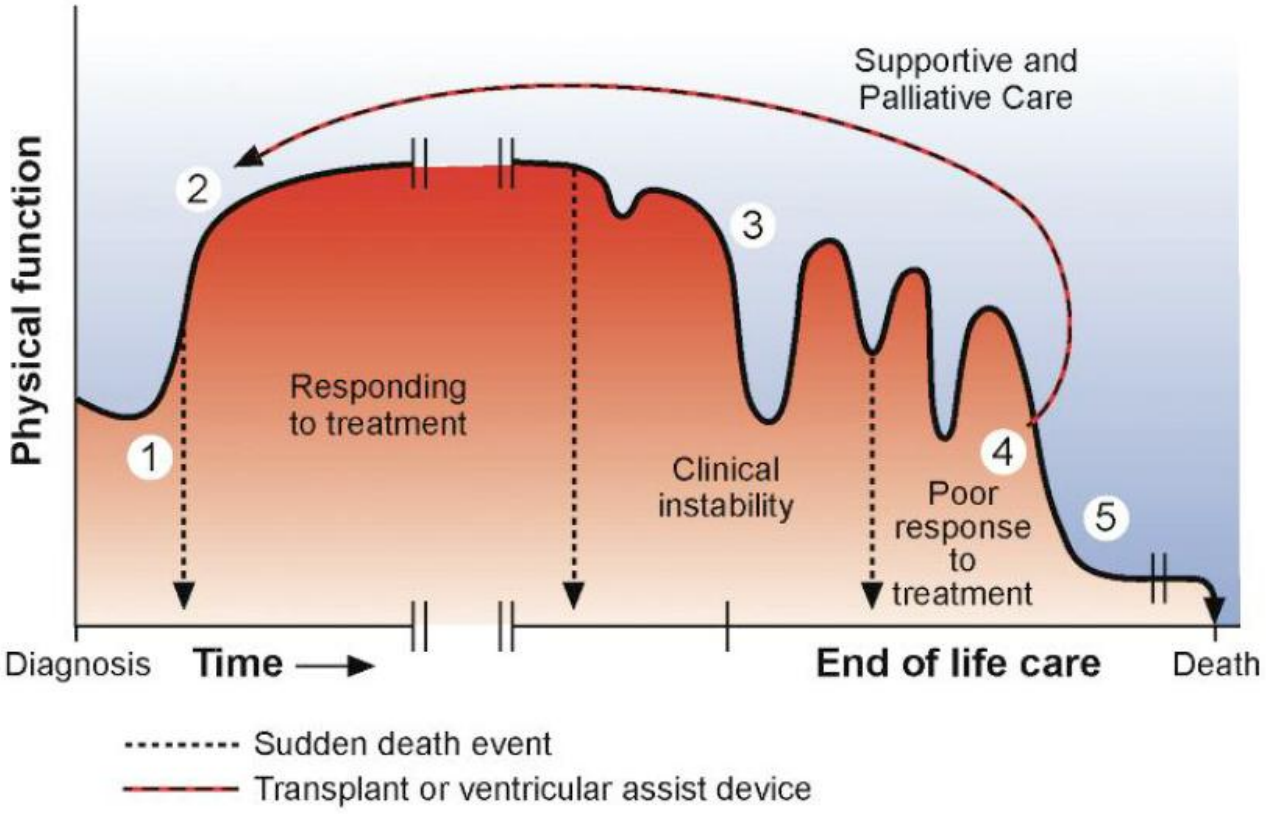
Figure 1. The typical course of heart failure



Source: End of Life Care in Heart Failure: a framework for implementation DoH 2010

illness trajectory & Mode of Death

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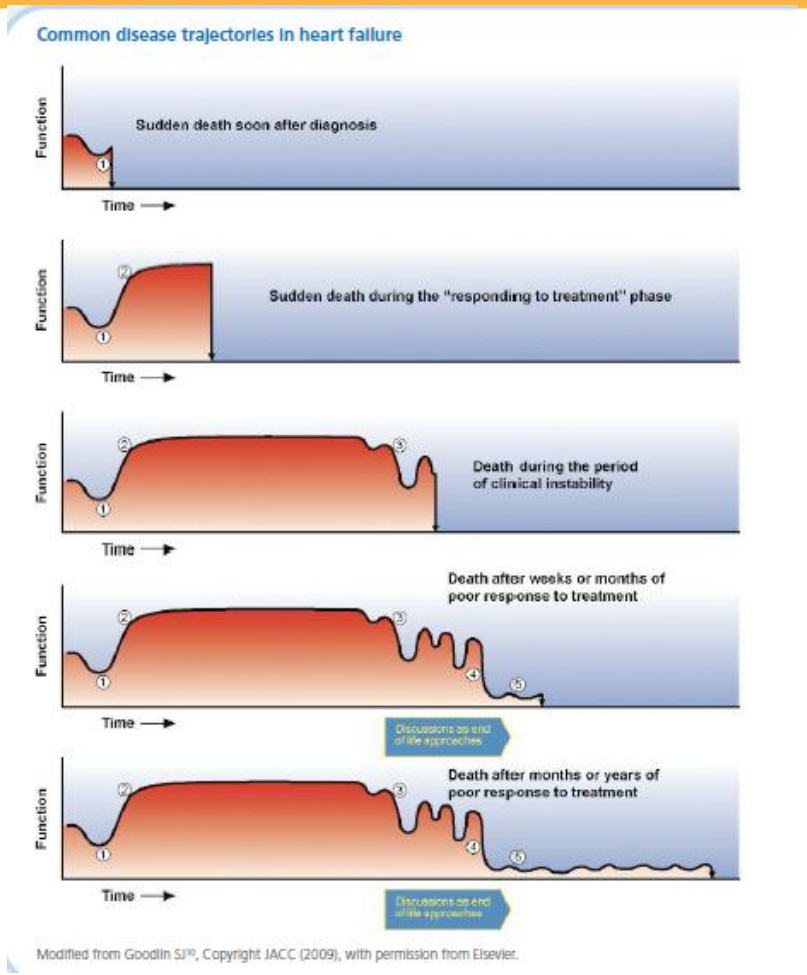

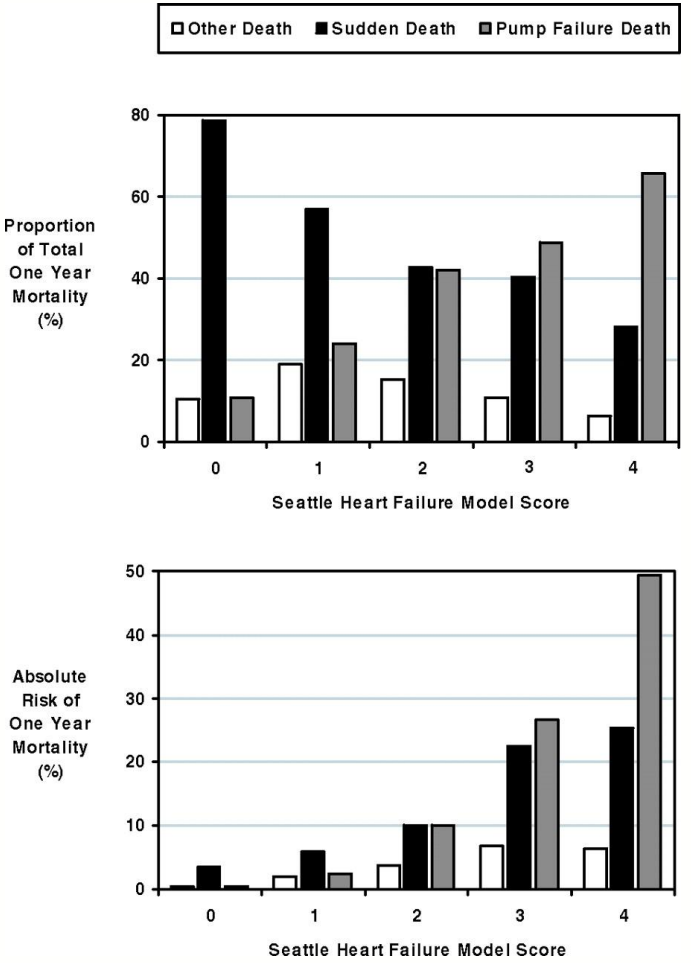

Source: End of Life Care in Heart Failure: a framework for implementation DoH 2010

Mozaffarian, et al Circulation. 2007; 116: 392-398

Key Opportunities

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1. Diagnosis

2. Hospital admission

3. Recognised deterioration in symptoms and in clinical factors known to affect prognosis

Key Opportunities

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1. Diagnosis – e.g. initiation of beta blockers

2. Hospital admission – e.g. CHF, ICD implant

3. Recognised deterioration in symptoms and clinical factors known to affect prognosis - prognostic models

1. Diagnosis : Risk of death

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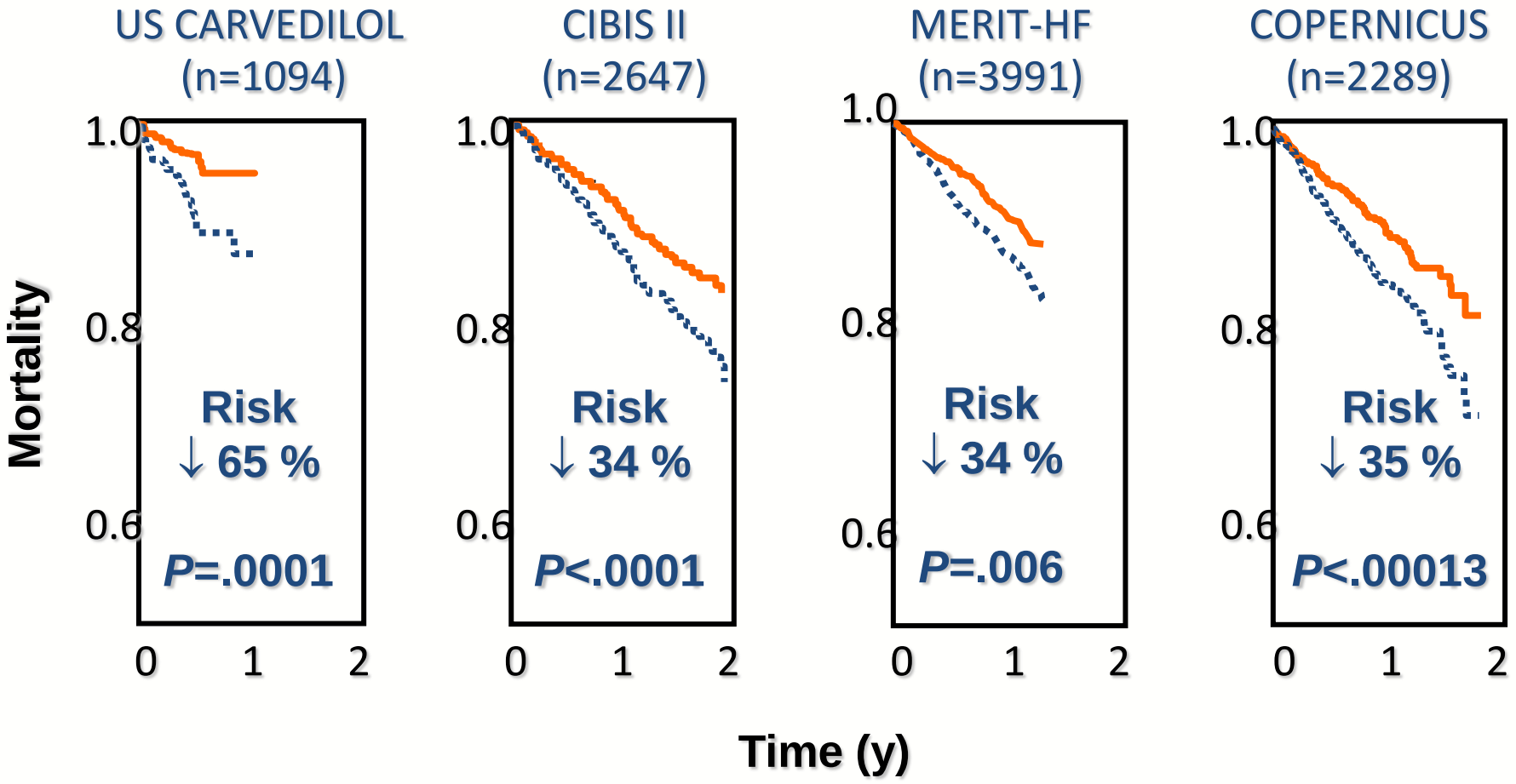

1. Diagnosis : Risk of death

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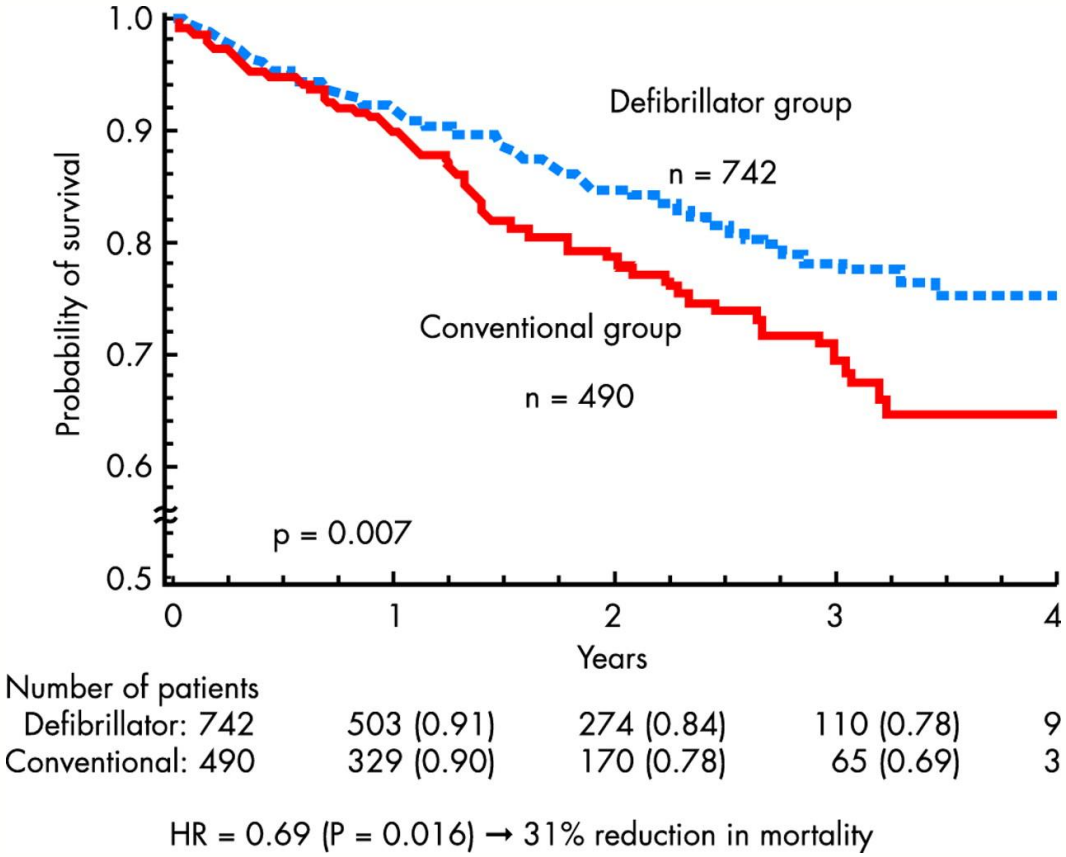

HR = 0.69 (P = 0.016) → 31% reduction in mortality

- Post –MI
- EF<30%

MADIT II trial, NEJM 2002

Cardiac prognostic models

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CHF prognostic models/scores

Ambulatory

- Seattle Risk Model
- CHARM
- MUSIC
- GISSI-HF
- ACTION-HF
- HFSS (advanced)

vs

Hospitalised

- ADHERE
- EFFECT

Cardiac prognostic models

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Cardiac prognostic models/scores

Ambulatory vs Hospitalised

SEATTLE HEART FAILURE MODEL

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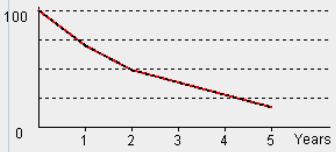
* Please click here for technical details.
* If your browser is configured for Java, the SHFM calculator will appear below shortly. If not, please configure your browser to support Java applets.

	Baseline 1 year	2 year	5 year	Post-intervention 1 year	2 year	5 year
Survival	70 %	49 %	17 %	70 %	49 %	17 %
Mortality	30 %	51 %	83 %	30 %	51 %	83 %
Mean life expectancy	2.7	years		2.7	years	



Baseline Characteristics

Clinical		Medications	Diuretics		Lab Data	
Age	65	ACE-I	Furosemide	120	Hgb	13.6
Gender	Male	Beta-blocker	Bumetanide	0	Lymphocyte%	24
NYHA Class	4	ARB	Torsemide	0	Uric Acid	9
Weight (kg)	80	Statin	Metolazone	0	Total Chol	190
EF	20	Allopurinol	HCTZ	0	Sodium	137
Syst BP	120	Aldosterone blocker			QRS >120 msec	

Devices: None / BiV Pacer / ICD / BiV ICD

Ischemic

Defaults

SI (Canadian) units Score	
Age (year)	75
Respiratory Rate (breaths/min) (minimal 20;maximal 45)	20
Systolic blood pressure (mmHg)	120 - 139
Blood Urea Nitrogen (mmol/L)	7
Sodium Concentration <136 mEq/L	Yes / No
Cerebrovascular Disease	Yes / No
Dementia	Yes / No
COPD	Yes / No
Hepatic Cirrhosis	Yes / No
Cancer	Yes / No
Hemoglobin <100 g/L (not required for 30-day Score)	Yes / No

Calculate | Clear

30-day	70
One-year	80

Palliative Care : Models Need & Prognosis

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Gold Standards Framework (Need & Prognosis)

General criteria	vs	Disease specific - CHF
Weight Loss		NYHA 3-4
Low albumin		Difficult symptoms
Karnofsky score		Repeated admissions
General decline		Surprise question*
Co-morbidity		

* Would you be surprised if this patient died within the next 6-12 months?

Haga et al, Heart 2011

How can we identify people accurately?

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Palliative Care Model vs Prognostic model
(GSF) vs (Seattle)

138 patients with NYHA class 3-4 symptoms
Enrolled in Hart Failure Nurse Service (HFNS)
Seattle score and GSF score (interview with SHFN)
Followed up for 12 months

Haga et al, Heart 2011

Results

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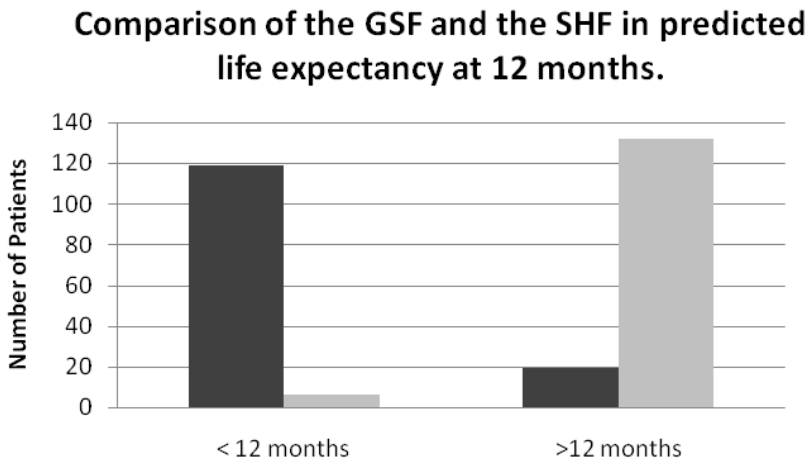
Palliative Care Model vs Prognostic model

RESULTS



31% (43) died

	PPV	NPV	Accuracy
GSF	33%	5%	41%
Seattle	83%	71%	72%

Haga et al, Heart 2011

Can we identify end of life in CHF accurately?

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Palliative Care Model vs Prognostic model

CONCLUSIONS

Neither predicts death with high degree of accuracy
GSF highlights needs
Seattle highlights adverse risk profile
Complementary

Haga et al, Heart 2011

Simple Prognostic Model

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Prognostic models – simple (n=1328)

	Variable	Parameter	HR	95% CI	Score
E	Elderly	70+ years	1.5	1.2-1.9	1
Di	Diabetic	Yes	1.6	1.3-1.9	1
N	NYHA Class	III or IV	1.5	1.3-1.8	1
B	B-Blocker	Not on B-Blockers	1.4	1.2-1.7	1
U	Under weight	<70 kg	1.4	1.2-1.7	1
R	Renal dysfunction	Creatinine ≥120 µmol/L	1.4	1.1-1.6	1
GH	Growing No of CHF Hospitalisation in last 12 months	1-2 admissions	4.3	3.4-5.4	2
		3 or more admissions	10.8	8.6-13.6	3

Iqbal et al, 2011

Simple Prognostic Model

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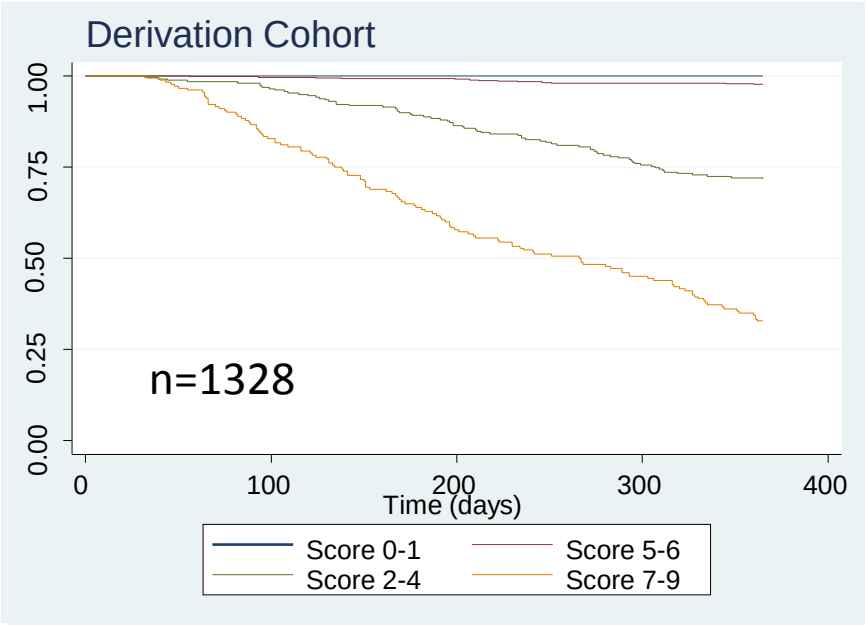
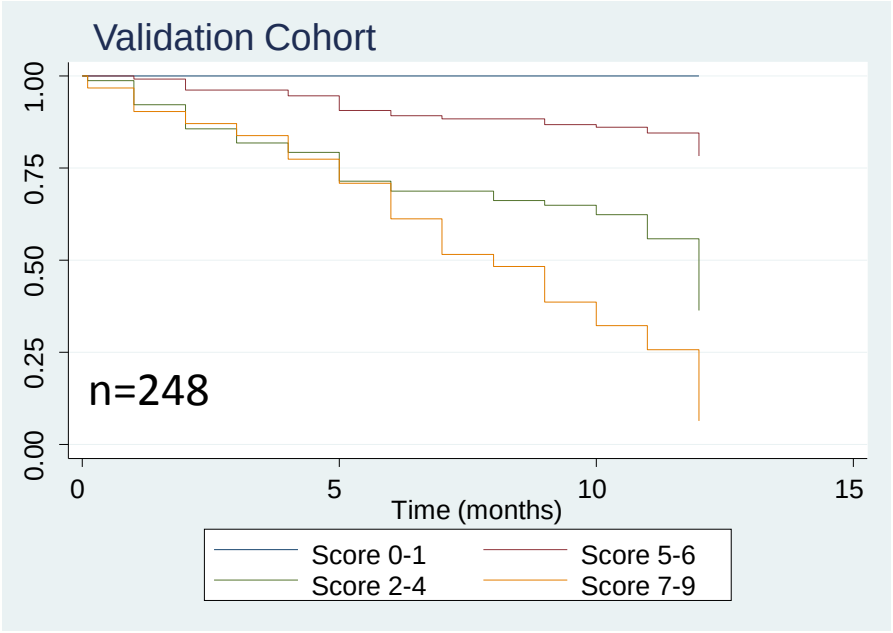
Prognostic models - EDiNBURGh





Iqbal et al, 2011

Simple Prognostic Model

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Prognosis and Needs

	Variable	Parameter	HR	95% CI	Score
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Iqbal et al, 2011

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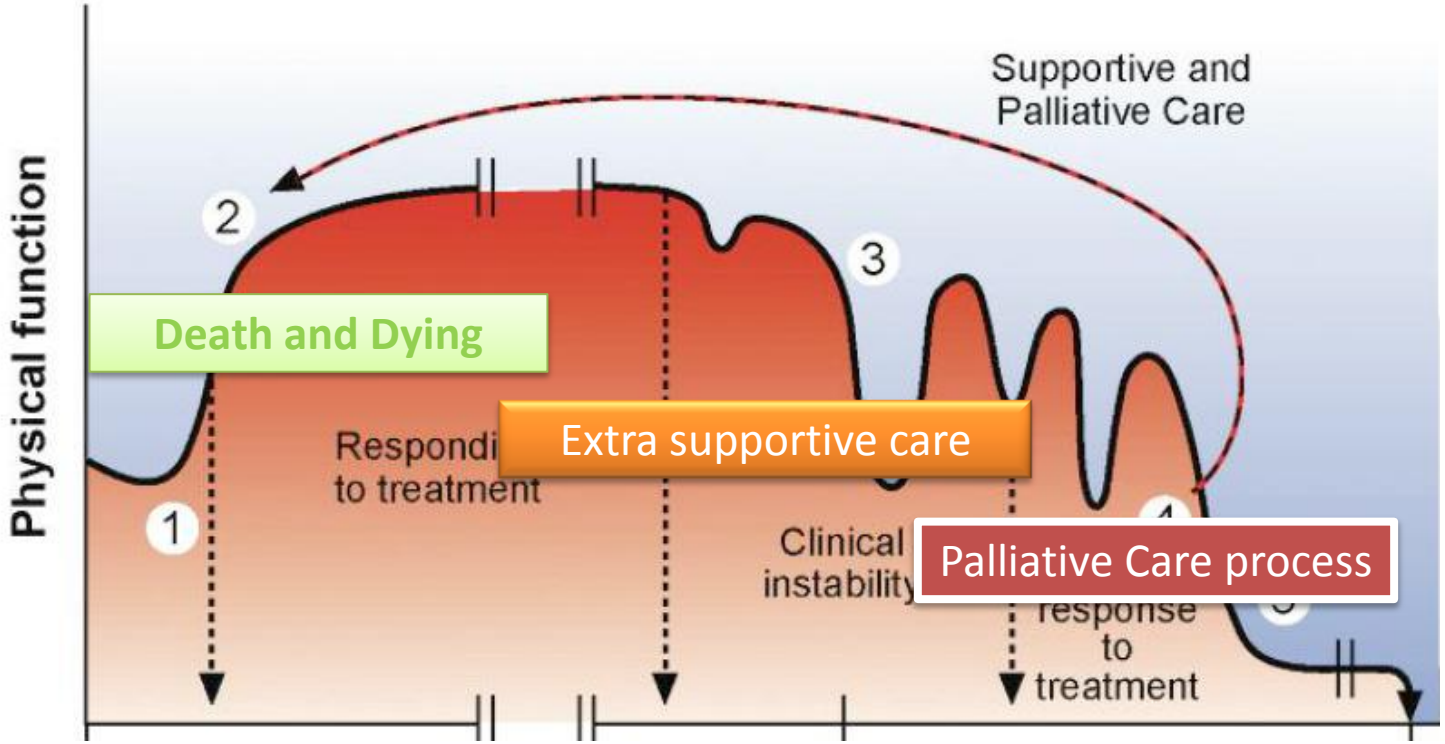

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Organisational structure

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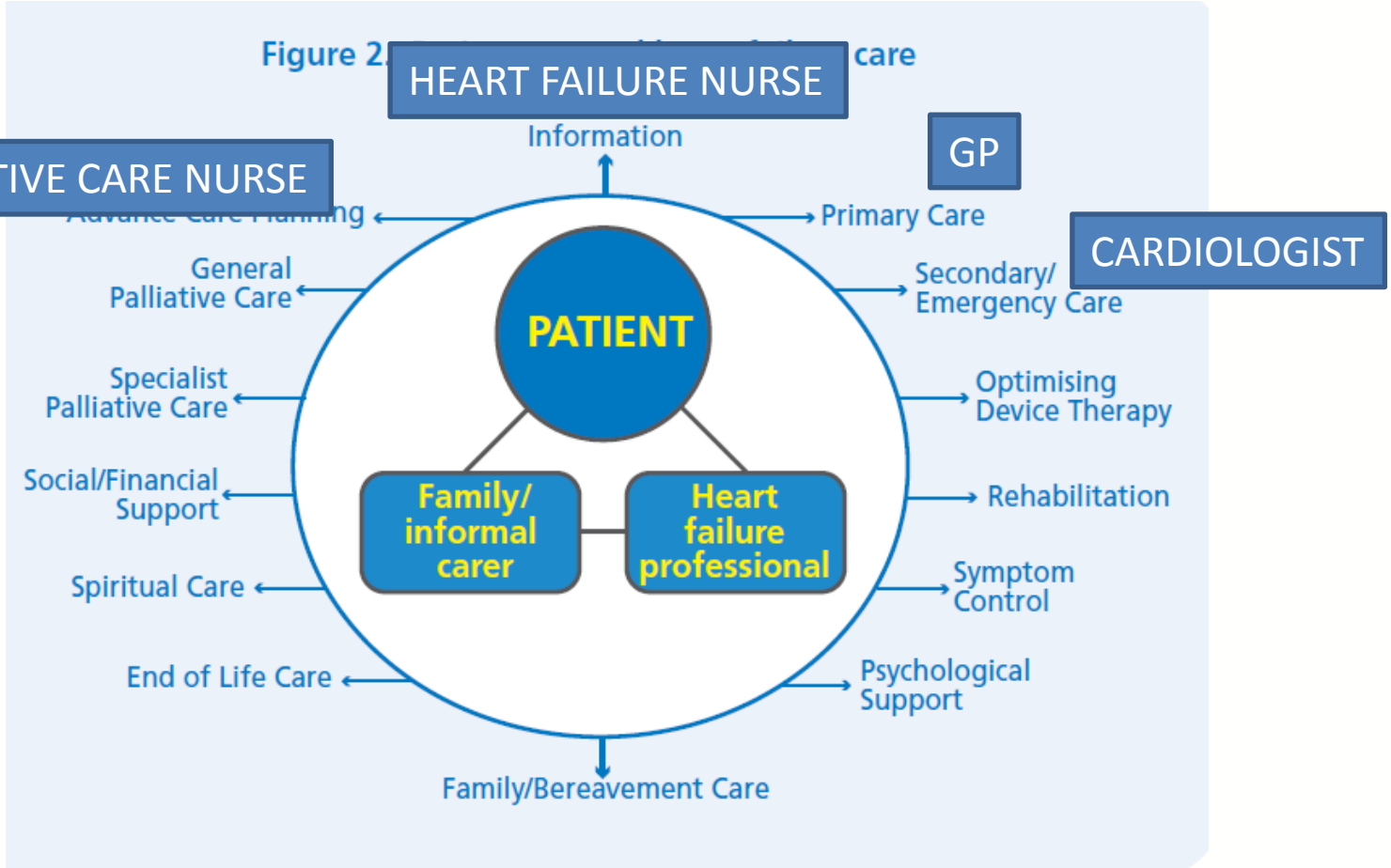

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1. **When can we identify people who need supportive and palliative care (SPC) ?** *diagnosis, hospital admission, ICD implant, worsening prognosis/increasing need for care & support*

2. **Can we accurately identify people with CHF who need SPC ?**
Yes, we can use a range of prognostic tools to guide us recognising that they identify a group at increased risk of death with increased needs

3. **Do we have the organisational structure that can achieve this ?**
Yes, but we need to develop these through education, training and implementation of agreed approaches to care