

Age (yrs)		Female	Sulfonylureas	Stroke or TIA	Dyslipidaemia
< 45	0	Yes -3	Yes 1	Yes 3	Yes -2
46 - 49	5				
50 - 54	10	Anticoagulants	Insulin	Chronic pulmonary disease	
55 - 59	15	Yes 6	Yes 6	Yes	3
60 - 64	20				
65 - 69	25	Platelet aggregation inhibitors		Ischaemic heart disease	
70 - 74	30	Yes	3	Yes	5
75 - 79	35				
80 - 84	40	Calcium channel blockers		Peripheral arterial disease	
≥ 85	45	Yes	4	Yes	5
		Demographic	Medications	Systemic inflammatory disease	
		Comorbidities		Yes	2

Risk score	HHF Risk Group	5-year HHF Risk
≤ 26 points	Low	1.3%
27 – 52	Medium	6.7%
≥ 53	High	19.5%

To illustrate the use of the proposed point-based heart failure hospitalisation risk score described in the figure above, consider a 67-year-old Male patient that suffers from type 2 diabetes treated with insulin, sulfonylureas, anticoagulants, and calcium channel blockers, with a previous medical history of ischaemic heart disease, peripheral heart disease and systemic inflammatory disease.

The patient specific HHF risk score can be easily computed by summing all points related to covariates with a positive answer (Yes), and those attributed to its age category:

$$\begin{aligned}
 \text{HHF risk score} &= 6^{\text{th}} \text{ Age category} + \text{Insulin} + \text{Sulfonylureas} + \text{Anticoagulants} + \text{Calcium channel blockers} \\
 &\quad + \text{ischaemic heart disease} + \text{peripheral arterial disease} + \text{Systemic inflammatory disease} \\
 &= 25 + 6 + 1 + 6 + 4 + 5 + 5 + 2 = 54
 \end{aligned}$$

Then, the HHF risk group and the corresponding 5-year HHF risk of our considered patient can be obtained from the black table at the bottom of the figure:

$$\text{HHF risk score} = 54 \rightarrow \text{High HHF risk group} \rightarrow 19.5\% \text{ probability of HHF within 5 years}$$

The considered patient is thus at high 5-year HHF risk as 19.5% of patients associated to the same risk group, according to the proposed point-based risk score, developed an HHF within 5 years.

To give another use example consider a 56-year-old Female patient that suffers from type 2 diabetes treated with insulin, platelet aggregation inhibitors and with a controlled dyslipidaemia.

The patient specific HHF risk score can be easily computed by summing all points related to covariates with a positive answer (Yes), and those attributed to its age category:

$$\begin{aligned}
 \text{HHF risk score} &= 4^{\text{th}} \text{ Age category} + \text{Female} + \text{Insulin} + \text{Platelet aggregation inhibitors} + \text{Dyslipidaemia} \\
 &= 15 - 3 + 6 + 3 - 3 = 18
 \end{aligned}$$

Then, the HHF risk group and the corresponding 5-year HHF risk of our considered patient can be obtained from the black table at the bottom of the figure:

$$\text{HHF risk score} = 18 \rightarrow \text{Low HHF risk group} \rightarrow 1.3\% \text{ probability of HHF within 5 years}$$

The considered patient is thus at low 5-year HHF risk as 1.3% of patients associated to the same risk group, according to the proposed point-based risk score, developed an HHF within 5 years.