

External validation of a refined 4-strata risk assessment score from the French pulmonary arterial hypertension registry

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Online Supplemental Materials

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Supplemental Table E1 – Cox proportional hazards regression models for overall survival at baseline and after 1st reassessment.

Baseline Risk Assessment	Hazard Ratio	95% CI	1st Follow-up Risk Assessment	Hazard Ratio	95% CI
<u>3-Strata</u>			<u>3-Strata</u>		
Low	-		Low	-	
Intermediate	2.24	1.81-2.78	Intermediate	3.39	2.80-4.10
High	4.24	3.34-5.39	High	8.95	6.83-11.73
<u>4-Strata</u>			<u>4-Strata</u>		
Low	-		Low	-	
Intermediate-low	1.82	1.37-2.42	Intermediate-low	2.65	2.11-3.17
Intermediate-high	3.20	2.44-4.19	Intermediate-high	5.65	4.50-7.11
High	5.19	3.88-6.94	High	11.08	8.23-14.92

Hazard ratios with reference to the low-risk group. Abbreviations: CI – confidence interval

Supplemental Table E2 – Initial treatment strategies for patients diagnosed in 2009-2014 compared to those diagnosed in 2015-2020

	2009-2014 (n=1401)	2015-2020 (n=1478)
CCB only	81 (6%)	86 (6%)
Monotherapy	808 (58%)	589 (40%)
Dual therapy	326 (23%)	470 (31.5%)
Triple Therapy	37 (3%)	42 (3%)
None	149 (10%)	291 (19%)

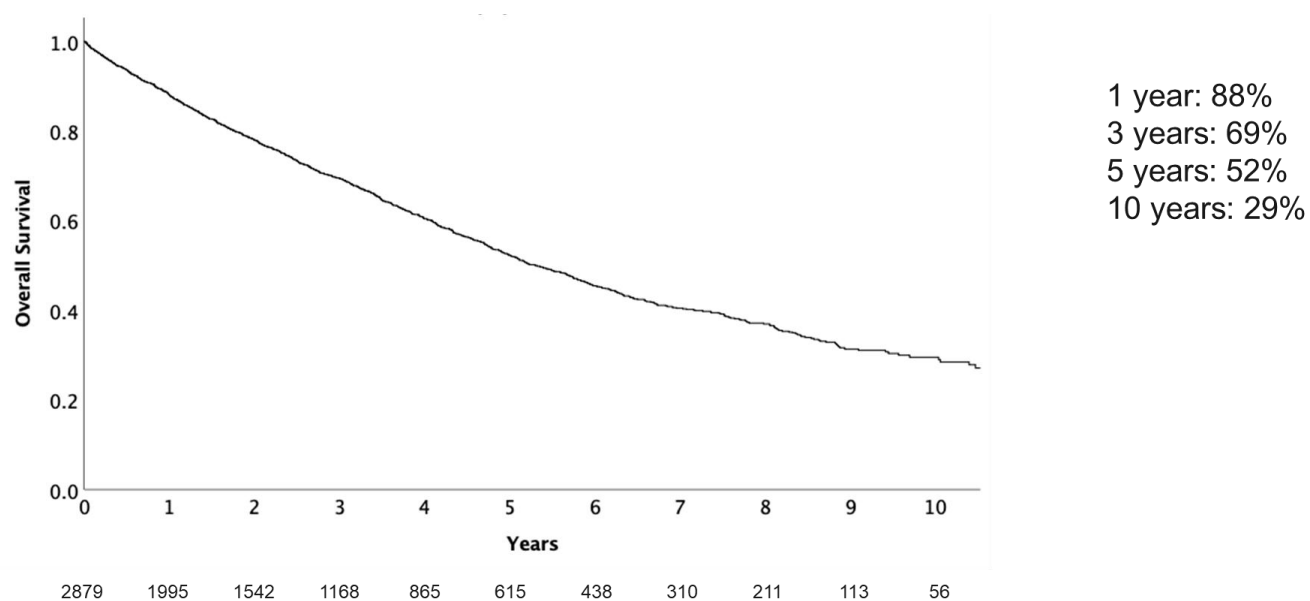
Supplemental Table E3 – Cox Proportional Hazards regression models for the 3 and 4-strata methods applied to patients diagnosed 2009-2014 and 2015-2020.

	2009-2014 (n=1401)			2015-2020 (n=1478)		
	Baseline			Baseline		
	HR	95%CI	p	HR	95%CI	p
3 Strata						
Low (Ref)	-			-		
Intermediate	2.41	1.85-3.12	<0.001	2.02	1.37-3.0	<0.001
High	4.12	3.06-5.56	<0.001	4.64	3.04-7.07	<0.001
4 Strata						
Low (Ref)	-			-		
Intermediate-low	1.78	1.27-2.49	0.001	2.02	1.18-3.45	0.01
Intermediate-high	3.16	2.29-4.37	<0.001	3.38	2.02-5.65	<0.001
High	4.71	3.31-6.71	<0.001	6.45	3.79-11.0	<0.001
	Follow-up			Follow-up		
	HR	95%CI	p	HR	95%CI	p
3 Strata						
Low (Ref)	-			-		
Intermediate	3.87	3.07-4.87	<0.001	2.32	1.66-3.24	<0.001
High	8.68	6.20-12.13	<0.01	6.56	4.26-10.1	<0.001
4 Strata						
Low (Ref)	-			-		
Intermediate-low	2.85	2.18-3.71	<0.001	1.96	1.30-2.98	0.001
Intermediate-high	6.33	4.81-8.32	<0.001	4.12	2.74-6.18	<0.001
High	9.99	6.94-14.37	<0.001	8.76	5.39-14.23	<0.001

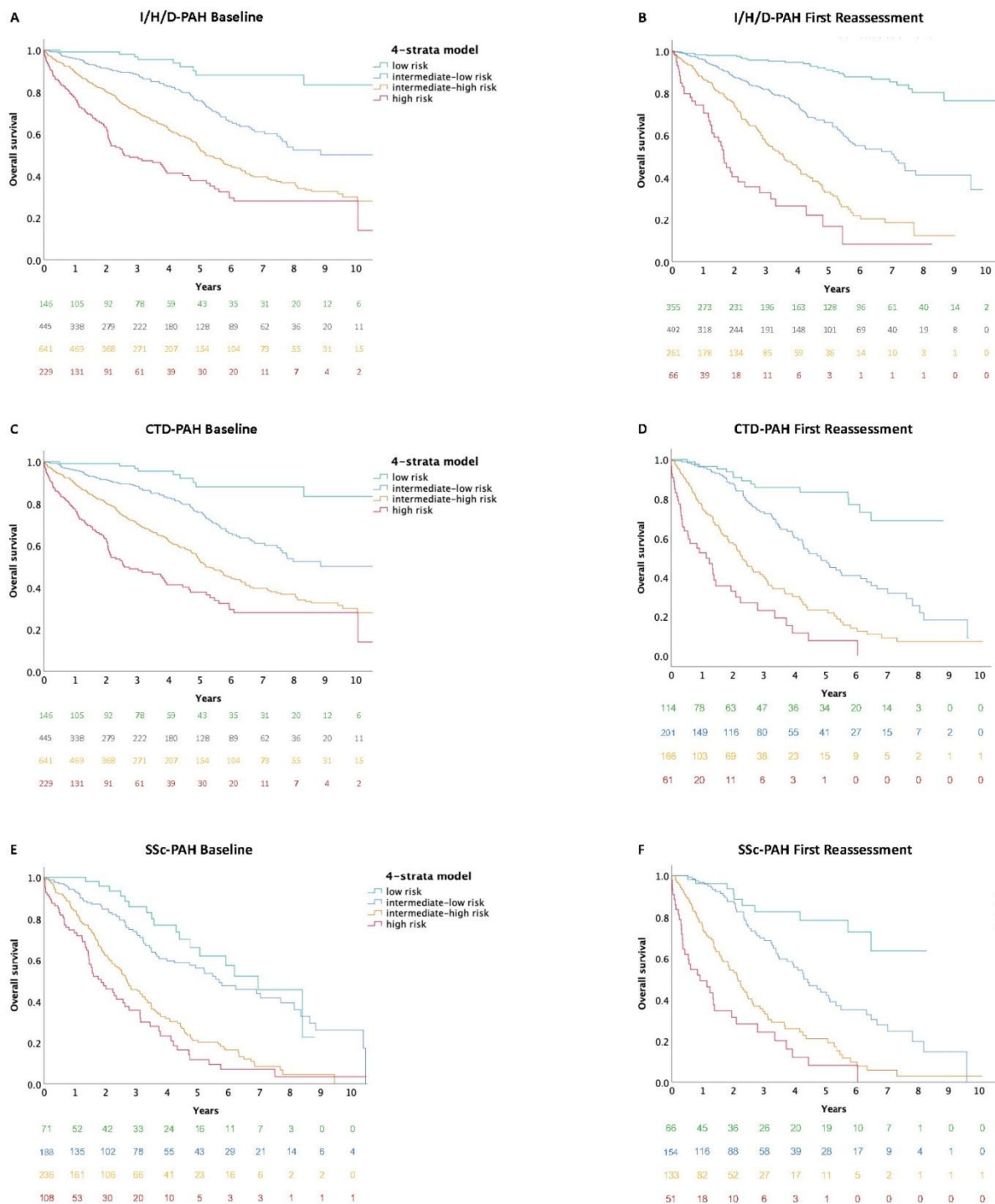
Supplemental Table E4 – Cox Proportional Hazards regression models for the 3 and 4-strata methods after excluding 295 patients who died within 1 year of diagnosis (n=2584).

Baseline Risk Assessment	Hazard Ratio	95% CI	Harrell's C	1st Follow-up Risk Assessment	Hazard Ratio	95% CI	Harrell's C
<u>3-Strata</u>			0.59	<u>3-Strata</u>			0.65
Low	-			Low	-		
Intermediate	2.03	1.61-2.56		Intermediate	3.32	2.72-4.05	
High	3.30	2.51-4.34		High	7.61	5.68-10.19	
<u>4-Strata</u>			0.61	<u>4-Strata</u>			0.69
Low	-			Low	-		
Intermediate-low	1.65	1.22-2.22		Intermediate-low	2.57	2.03-3.24	
Intermediate-high	2.70	2.02-3.59		Intermediate-high	5.52	4.35-7.01	
High	3.85	2.79-5.31		High	9.22	6.71-12.67	

Supplemental Figure E1 – Overall survival for newly diagnosed pulmonary arterial hypertension patients from January 1, 2009 until December 31, 2020

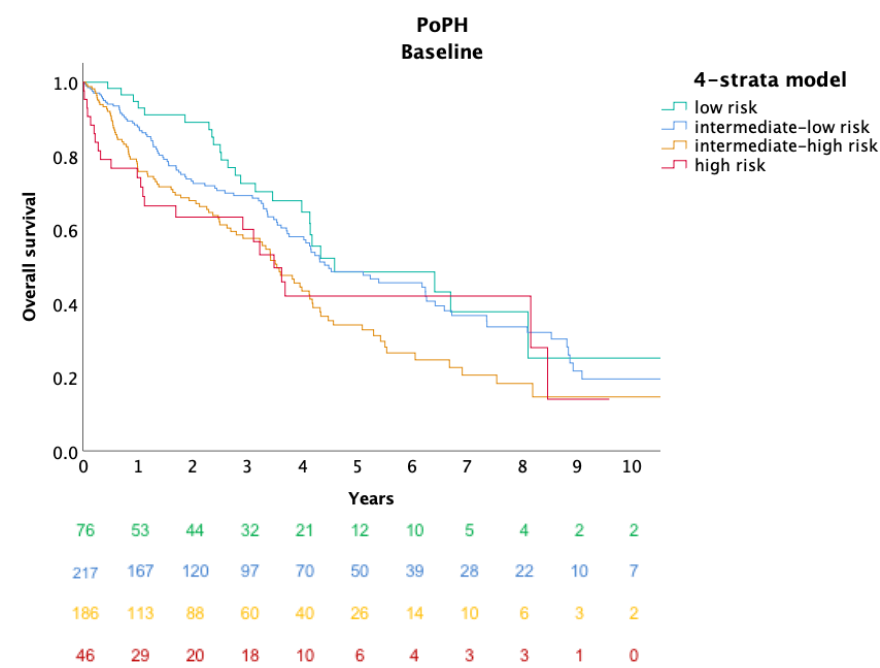


Supplemental Figure E2 - Risk stratification using the 4-strata model among patient subgroups. Those with idiopathic, heritable, and drug or toxin-induced PAH at baseline (A) and after first follow-up (B). Those with connective tissue disease-associated PAH at baseline (C) and after first follow-up (D). Those with systemic sclerosis-associated PAH at baseline (E) and after first follow-up (F). Log-rank test $p < 0.001$ for each panel.



Supplemental Figure E3 – Survival by 4-strata risk groups for patients with portopulmonary hypertension after diagnosis (A) and after first reassessment (B). Log-rank test $p=0.007$ for (A) and $p<0.001$ for (B).

(A)



(B)

