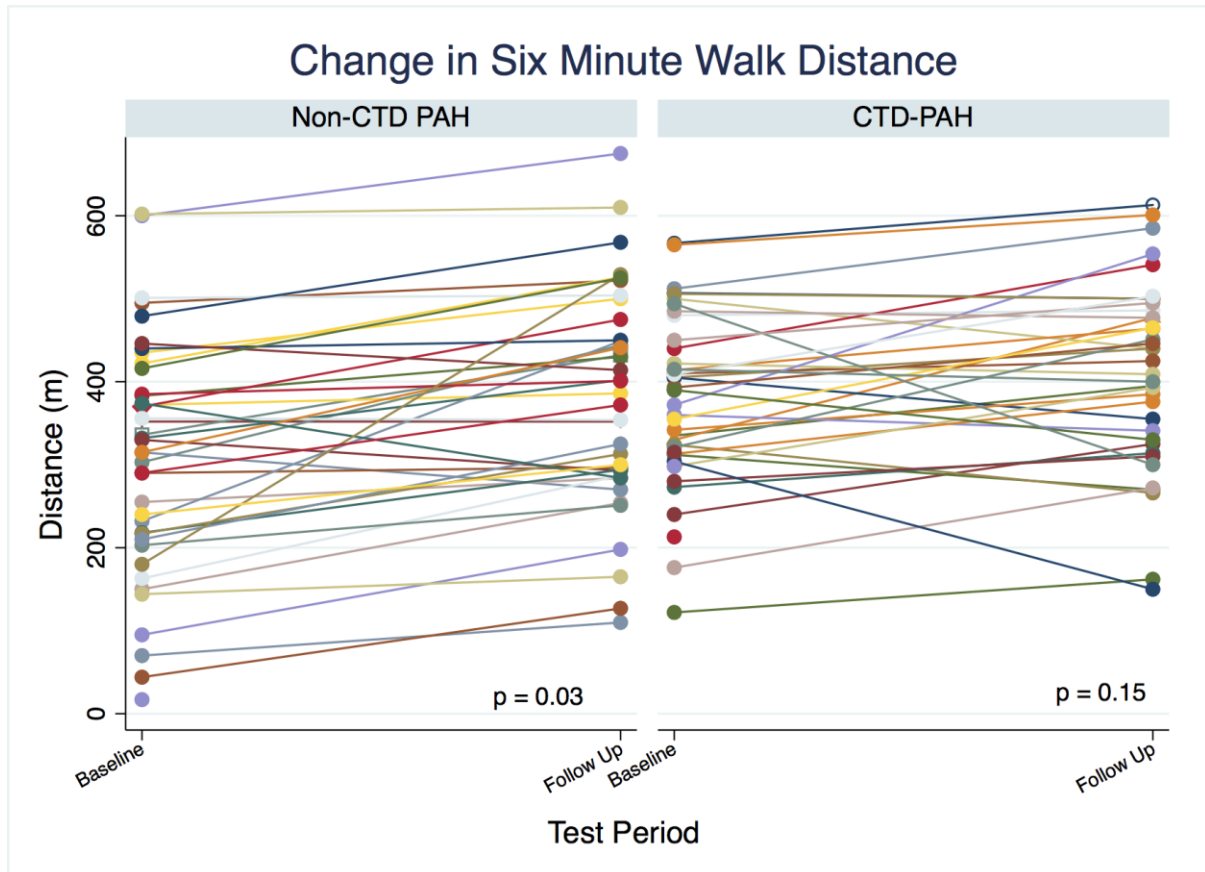
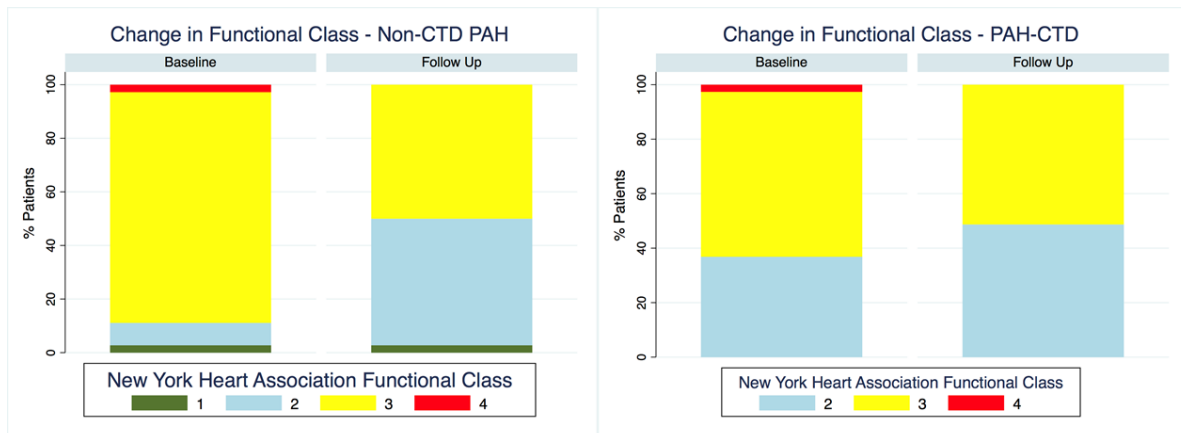


Supplementary Figure Legend

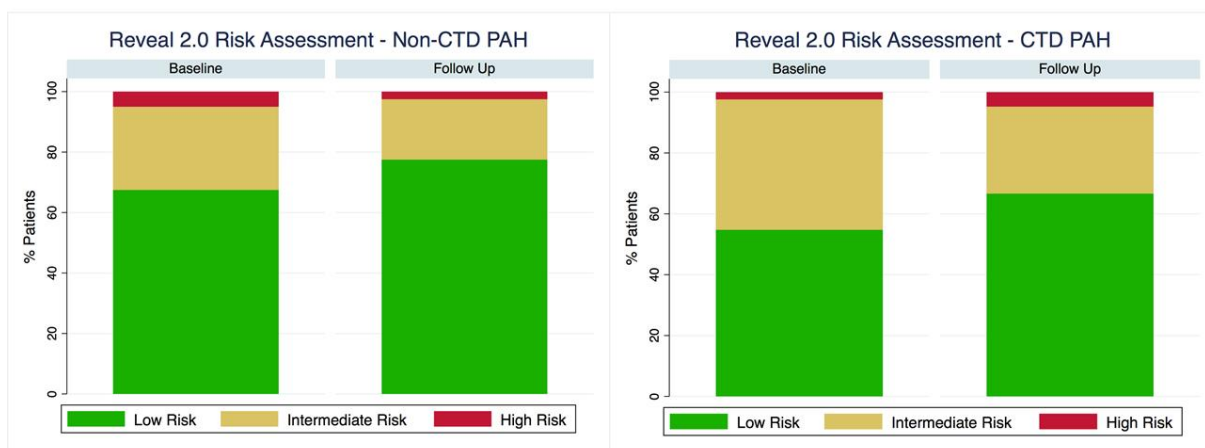
Supplementary Figure S1. Six-minute walk distance at baseline and at first follow up after initial treatment initiation stratified by aetiology. Non-CTD PAH group (left panel) showed median improvement of 65m (IQR 14-104 p= 0.03) and CTD PAH group (right panel) showed median improvement of 41m (IQR 8-85 p=0.15).



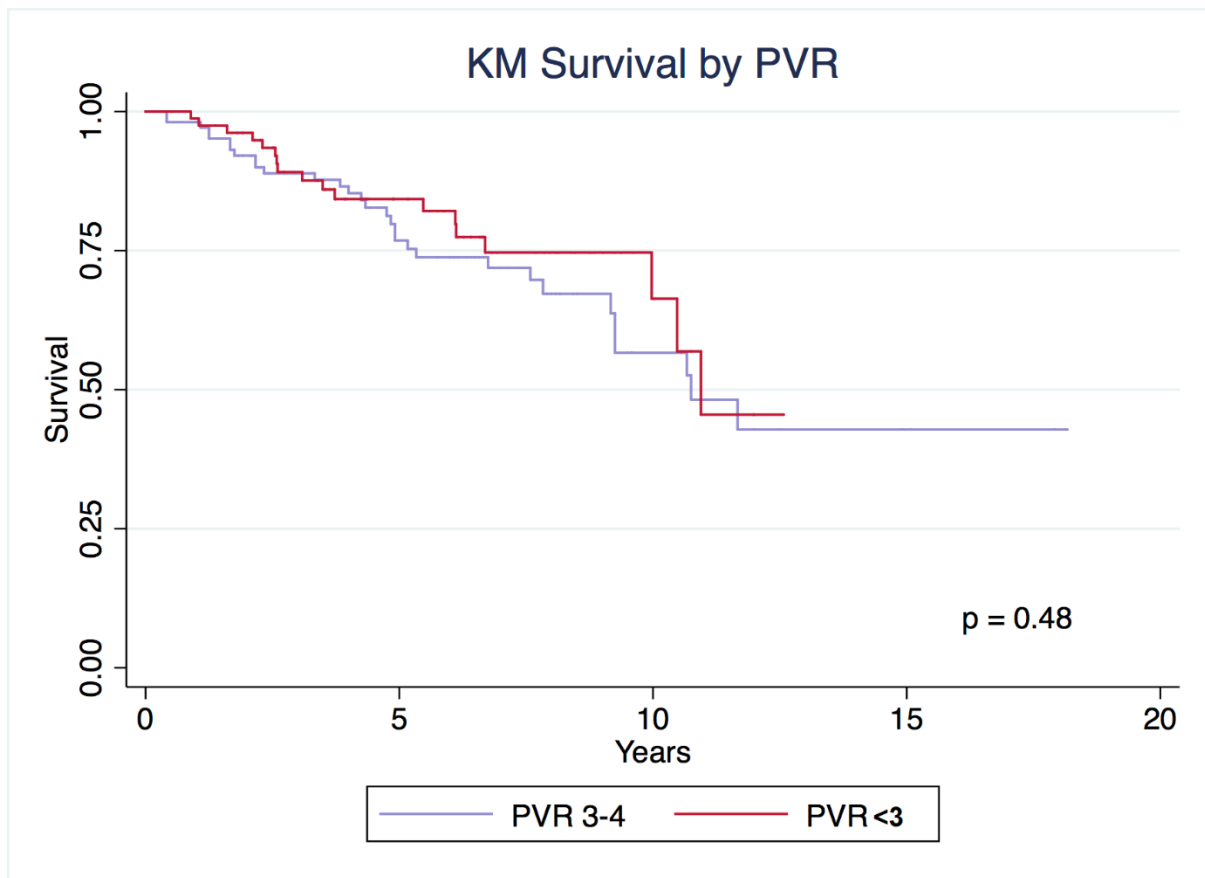
Supplementary Figure S2. New York Heart Association Functional Class at baseline and at first follow up after treatment initiation in patients with non-CTD disease related PAH (A) and CTD PAH (B). In the non-CTD PAH group, 34% displayed improvement in FC compared to 20% in CTD-PAH group.



Supplementary figure S3: RVEAL 2.0 modified risk assessment at baseline and first follow-up after initial treatment initiation in patients with non-CTD PAH (A) and CTD PAH (B). Proportion of patients in the low risk category increased from 68% to 78% in non-CTD PAH group and from 54% to 64% in CTD PAH group.



Supplementary Figure 4. Kaplan-Meier survival estimates of study cohort with PVR <3WU (total = 82) compared to a reference PSHANZ cohort with PVR 3-4 WU (n=107). There was no significant difference in median survival (log rank, $p=0.48$).



Supplementary Table S1. Baseline characteristics of patients stratified by aetiology

	Connective tissue disease related PAH (n=42)	Non-Connective tissue disease PAH (n=40)	P value
Age, years	62 ± 10	63 ± 11	0.93
Gender, Female %	88%	73%	0.38
BMI, kg/m ²	30.2 ± 8	32.8 ± 7	0.75
Co-morbidities, n (%)			
Diabetes mellitus	6 (14%)	15 (38%)	0.05
Hypertension	21 (50%)	24 (60%)	0.65
Dyslipidemia	19 (45%)	17 (43%)	0.74
Ischemic heart disease	14 (33%)	8 (20%)	0.20
Peripheral vascular disease	4 (10%)	1 (3%)	0.18
Current smoker	1 (2%)	2 (5%)	0.56
Ex-smoker	14 (33%)	12 (30%)	0.69
Obstructive sleep apnoea	9 (21%)	11 (28%)	0.65

Baseline haemodynamics:			
mPAP, mmHg	27 (IQR 26-29)	27 (IQR 25-30)	1
PAWP, mmHg	13 (IQR 11-14)	13 (IQR 12-14)	1
PVR, WU	2.2 (IQR 1.9-2.6)	2.3 (IQR 1.9-2.7)	0.96
CO, L/min	6.6 (IQR 5.8-7.5)	7 (IQR 6.0-7.5)	0.91
CI, L/min/m ²	3.6 (IQR 3.2-4.2)	3.6 (IQR 3.1-4.3)	1
RAP, mmHg	7.0 (IQR 5.0 – 10.0)	8 (IQR 6-11)	0.79
MAP, mmHg	93 (IQR 82-102)	104 (IQR 97-109)	0.43
SVR, dynes.sec/cm ⁵	1076 (IQR 848-1229)	1078 (IQR 914-1272)	0.97
HR, bpm	(IQR 69 – 87)	70 (IQR 66-79)	0.62
Baseline 6MWD, m	390 (IQR 314-436)	323 (IQR 215-384)	0.01
NYHA Functional class, n			
I	0	1	0.009
II	16	3	
III	25	35	
IV	1	1	

Data expressed as mean +/- SD unless otherwise stated. BMI – body mass index, mPAP – mean pulmonary artery pressure, PAWP – pulmonary arterial wedge pressure, PVR – pulmonary vascular resistance, CO – cardiac output, CI – cardiac index, RAP – right atrial pressure, NYHA – New York Heart Association, 6MWD – 6 minute walk distance, MAP – mean arterial pressure, SVR – systemic vascular resistance, NYHA – New York Heart Association, 6MWD – 6 minute walk distance, DLCO – diffusing capacity for carbon monoxide, FEV1 – forced expiratory volume in 1 sec, FVC – forced vital capacity, TLC – total lung capacity.

Supplementary Table S2. Therapy at diagnosis and last follow-up

	Connective tissue disease related PAH	Non- Connective tissue disease
Number (%)	42 (100%)	40 (100%)
Initial treatment strategy		
<i>Medication class (%)</i>		
Endothelin receptor antagonists	32 (76%)	34 (85%)
Phosphodiesterase type 5 inhibitors	10 (24%)	6 (15%)
<i>Specific medications (%)</i>		
Bosentan	23 (55%)	27 (68%)
Sitaxsentan	4 (10%)	3 (8%)
Macitentan	3 (7%)	2 (5%)
Ambrisentan	2 (5%)	2 (5%)
Sildenafil	10 (24%)	5 (13%)
Tadalafil	0 (0%)	1 (3%)
Treatment strategy at last follow up		

<i>Monotherapy (%)</i>	31 (74%)	37 (93%)
Bosentan	16 (38%)	22 (55%)
Sitaxsentan	1 (2%)	0 (0%)
Macitentan	3 (7%)	5 (13%)
Ambrisentan	1 (2%)	3 (7%)
Sildenafil	10 (24%)	4 (10%)
Tadalafil	0 (0%)	3 (8%)
<i>Combination therapy (%)</i>	11 (26%)	3 (8%)
Ambrisentan + sildenafil	7 (17%)	1 (2%)
Ambrisentan + tadalafil	1 (2%)	0 (0%)
Macitentan + sildenafil	3 (7%)	1 (2%)
Sitaxsentan + sildenafil	0 (0%)	1 (2%)

Supplementary Table S3. Right heart catheterisation hemodynamics at baseline and follow up

	Baseline RHC	Repeat RHC	P value
mPAP, mmHg	27 (IQR 26-28)	25 (IQR 23-29)	0.65
PAWP, mmHg	13 (IQR 11-14)	12 (IQR 10-15)	0.51
PVR, WU	2.3 (IQR 1.8 – 2.7)	2.1 (IQR 1.7-3.0)	0.37
CO, L/min	6.0 (IQR 5.8-6.9)	5.6 (IQR 4.9-6.0)	0.04
CI, L/min/m ²	3.3 (IQR 3.1-3.5)	3.1 (IQR 3.0-3.4)	0.16
RAP, mmHg	7.0 (IQR 5.0 – 10.0)	8.5 (IQR 6.8-10.0)	0.35

Data expressed as median (IQR). mPAP – mean pulmonary artery pressure, PAWP – pulmonary arterial wedge pressure, PVR – pulmonary vascular resistance, CO – cardiac output, CI – cardiac index, RAP – right atrial pressure