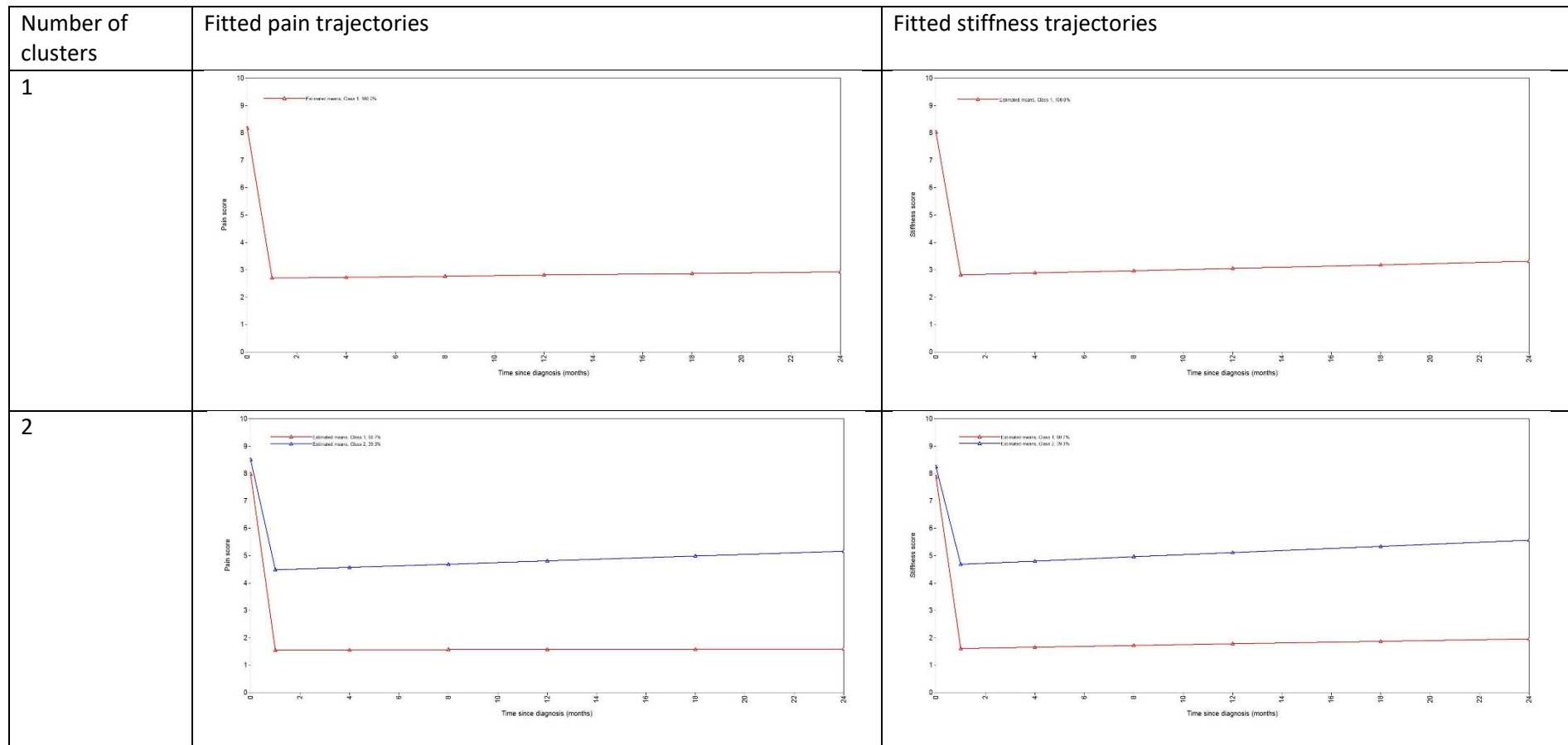


Supplementary Data S1. The tighter definition of PMR

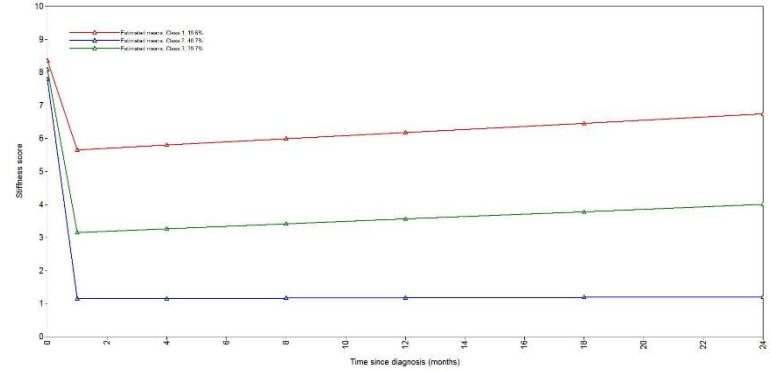
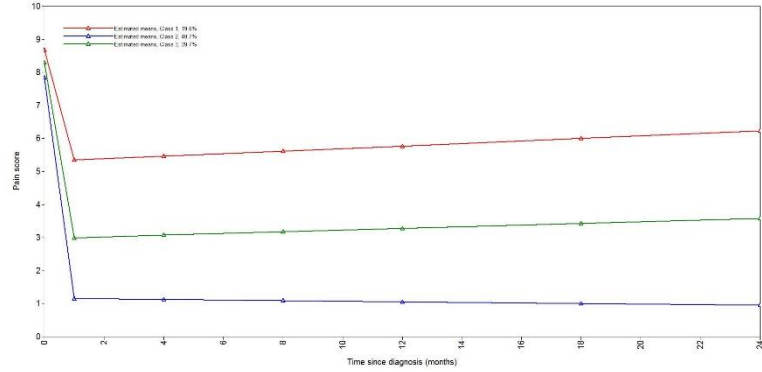
(as agreed by independent group of rheumatologists)

- aged 50 years or over at diagnosis
- morning stiffness duration to be ≥ 45 minutes at baseline
- bilateral pain and/or stiffness in the shoulders at baseline on body manikins
- prescribed oral glucocorticoids at the time of diagnosis

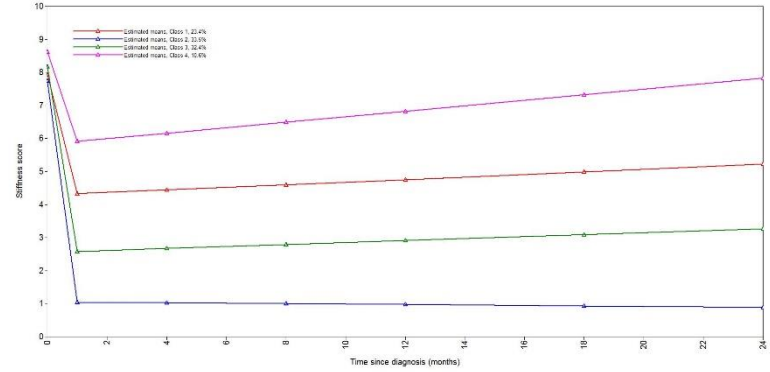
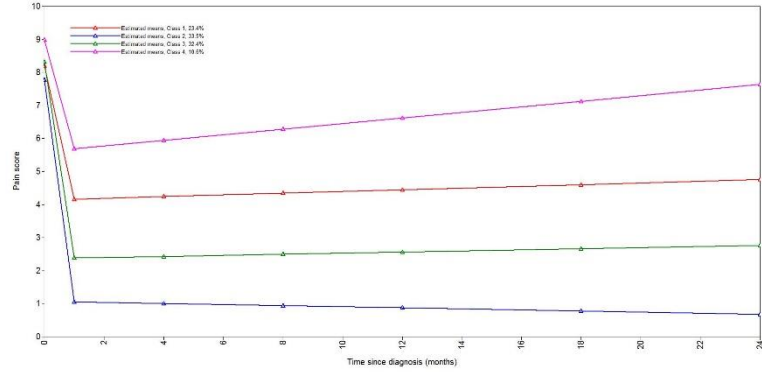
Supplementary Figure S8. Fitted (a) pain and (b) stiffness trajectories with varying numbers of clusters fitted (n=453)



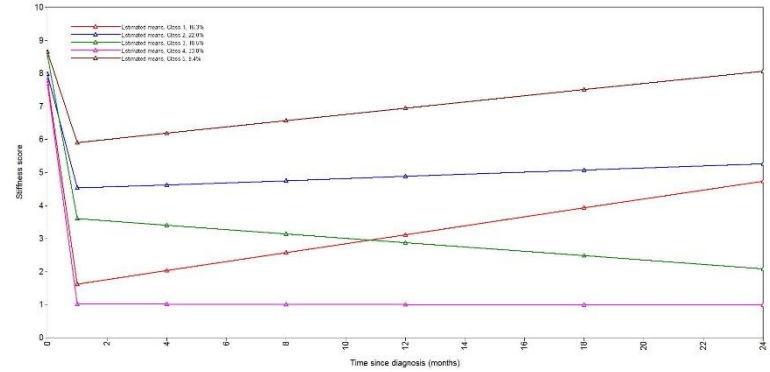
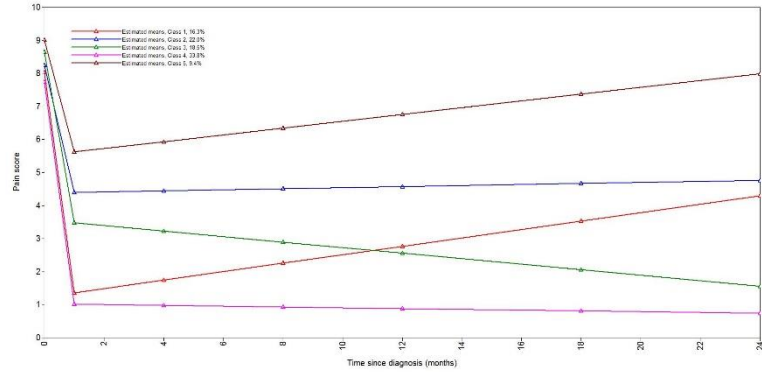
3

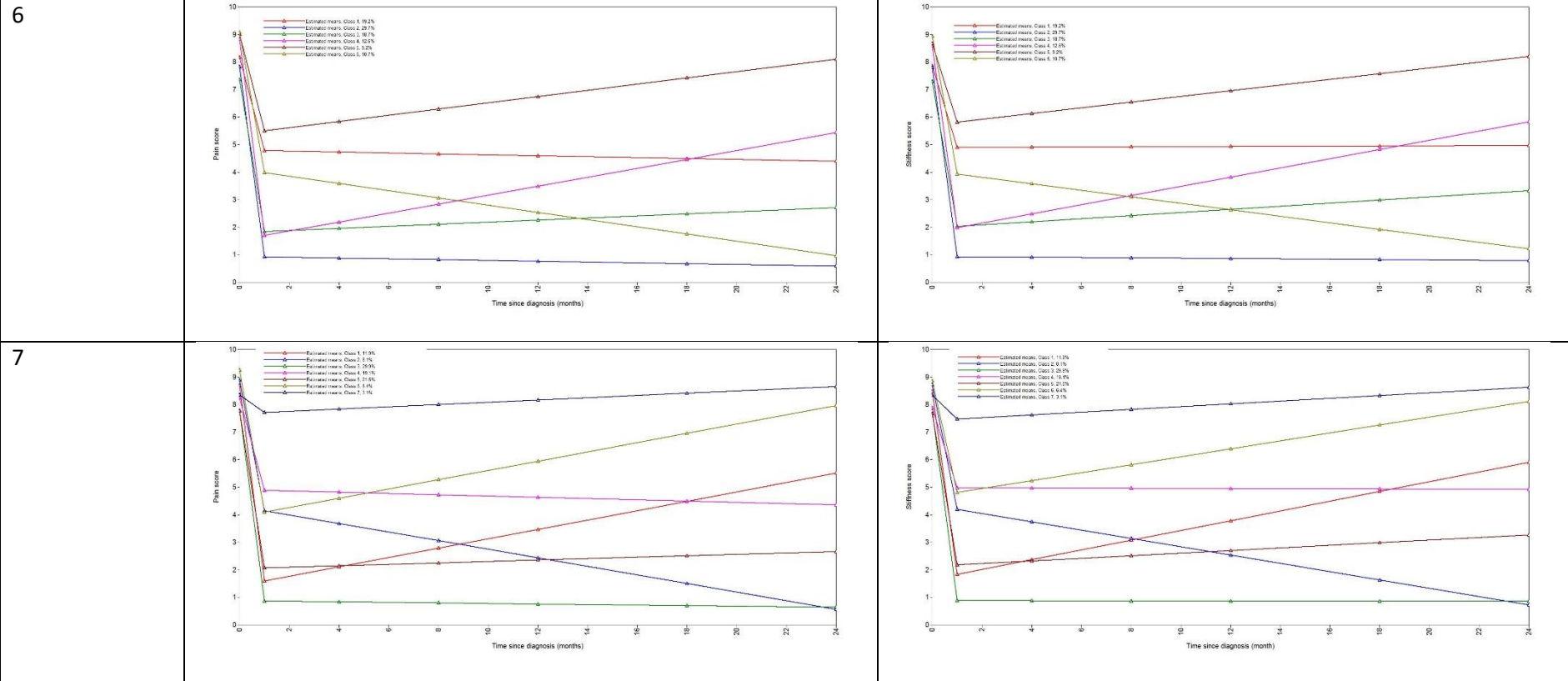


4



5





Note for this sensitivity analysis, a 5 cluster solution was assumed to compare to the main analysis. This figure is for completeness only

Supplementary Table S5. Latent Class Growth Analysis (LCGA) – piecewise model selection (n=453)

Cluster	AIC	BIC	ABIC	Entropy	VLMR LRT	Adjusted LMR LRT	PB LRT	Cluster sizes	Average posterior probability of cluster membership
1	23996	24079	24015	N/A	N/A	N/A	N/A	453	1.00
2	22201	22313	22227	0.864	P<0.0001	P<0.0001	P<0.0001	278, 175	0.97, 0.93
3	21719	21859	21751	0.834	P=0.0276	P=0.0293	P<0.0001	82, 186, 185	0.88, 0.94, 0.92
4	21545	21714	21584	0.803	P=0.1704	P=0.1764	P<0.0001	99, 156, 151, 47	0.85, 0.92, 0.87, 0.88
5	21361	21559	21406	0.796	P=0.5323	P=0.5374	P<0.0001	62, 95, 89, 167, 40	0.74, 0.86, 0.82, 0.95, 0.87
6	21269	21495	21321	0.794	P=0.4366	P=0.4376	P<0.0001	82, 145, 77, 58, 39, 52	0.86, 0.92, 0.76, 0.79, 0.88, 0.80
7	21170	21425	21228	0.815	P=0.3432	P=0.3446	P<0.0001	58, 32, 146, 84, 95, 25, 13	0.80, 0.76, 0.93, 0.88, 0.82, 0.78, 0.89

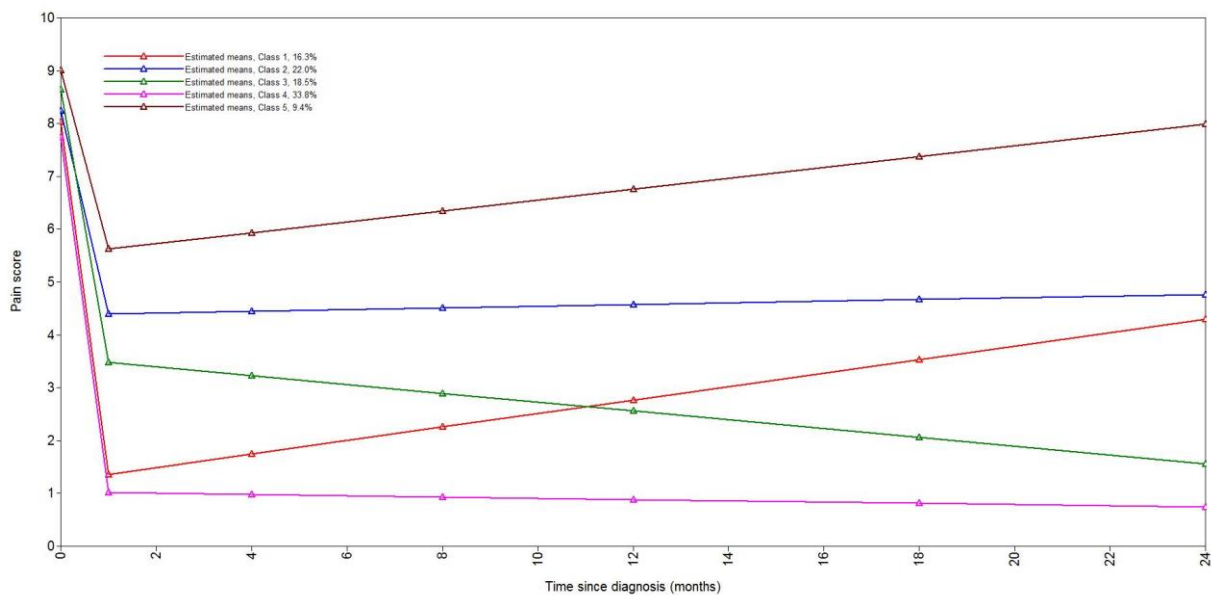
AIC – Akaike Information Criterion; BIC – Bayesian Information Criterion; ABIC – Sample-size adjusted BIC; VLMR LRT – Vuong-Lo-Mendell-Rubin likelihood ratio test; LMR LRT – Lo-Mendell-Rubin likelihood ratio test; PBLRT – parametric bootstrapped likelihood ratio test; p – p-value.

Model choice: choose model with lowest AIC, BIC, ABIC; entropy>0.8. Significant p-value for VLMR LRT, adjusted LMR LRT and PB LRT (suggests model over model with one fewer clusters). Number in each cluster should be >5% of sample size (i.e.>23). Average posterior probability of cluster membership should be >0.7

Note for this sensitivity analysis, a 5 cluster solution was assumed to compare to the main analysis. This table is for completeness only

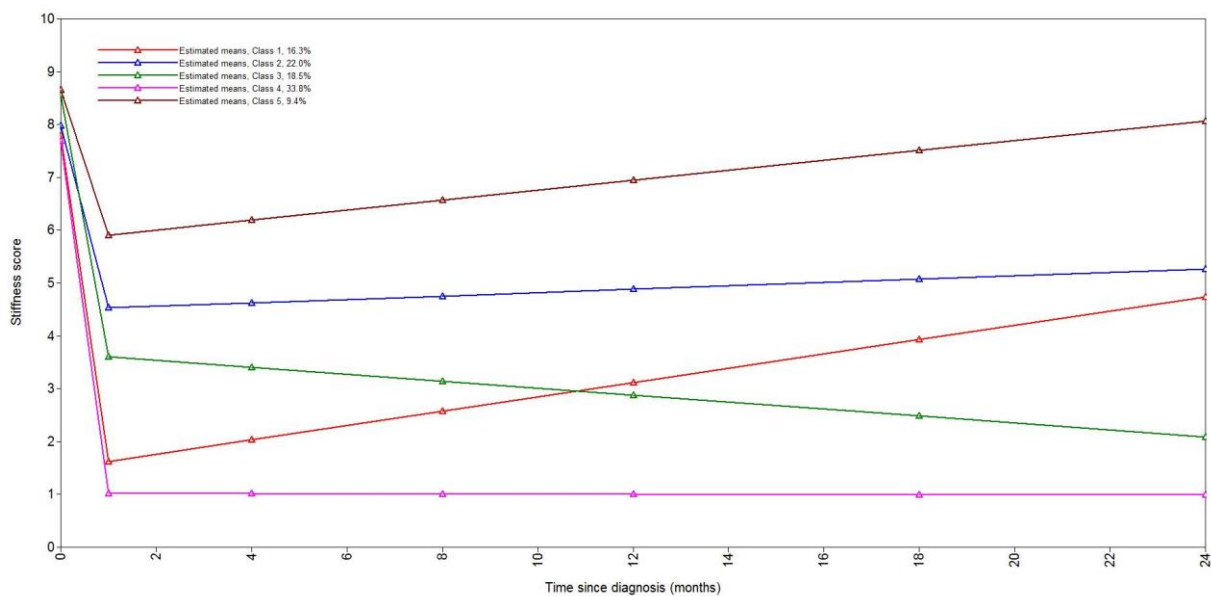
Supplementary Figure S9. Fitted latent growth curves of pain and stiffness in 5 cluster model (n=453)

a. Pain

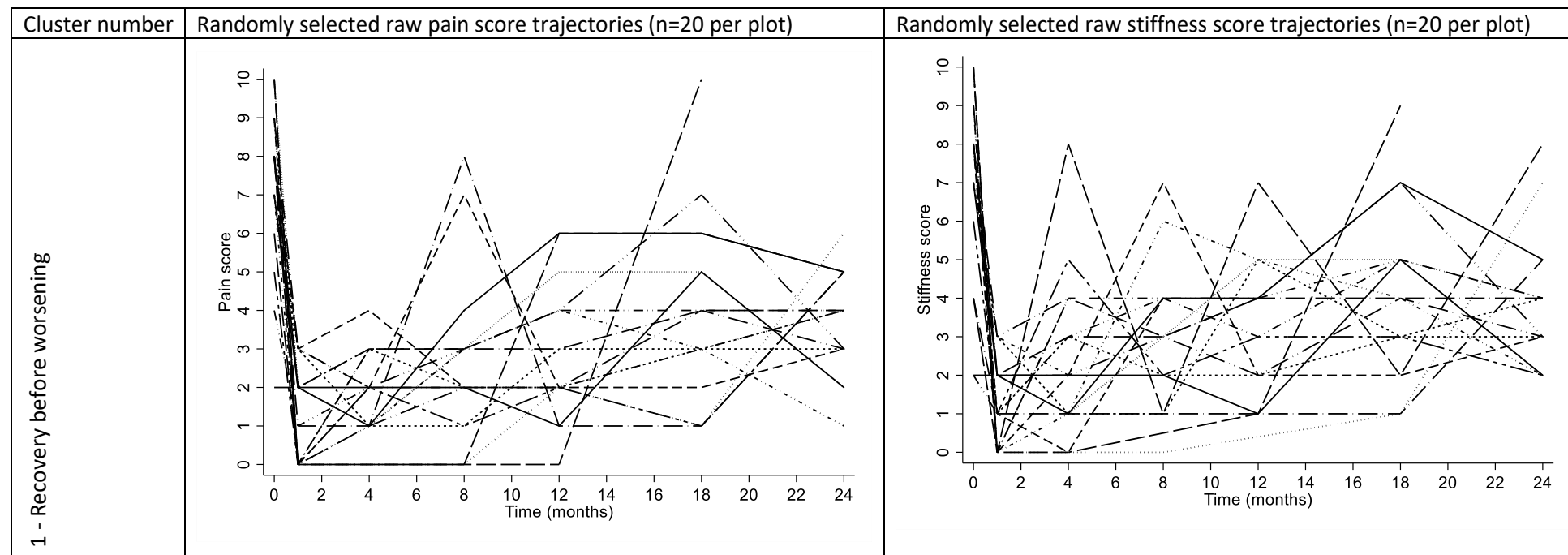


Cluster 1 - Recovery before worsening; Cluster 2 - Partial recovery with sustained moderate symptoms; Cluster 3 - Slow and continuous recovery; Cluster 4 - Rapid and sustained recovery; Cluster 5 - Sustained symptoms

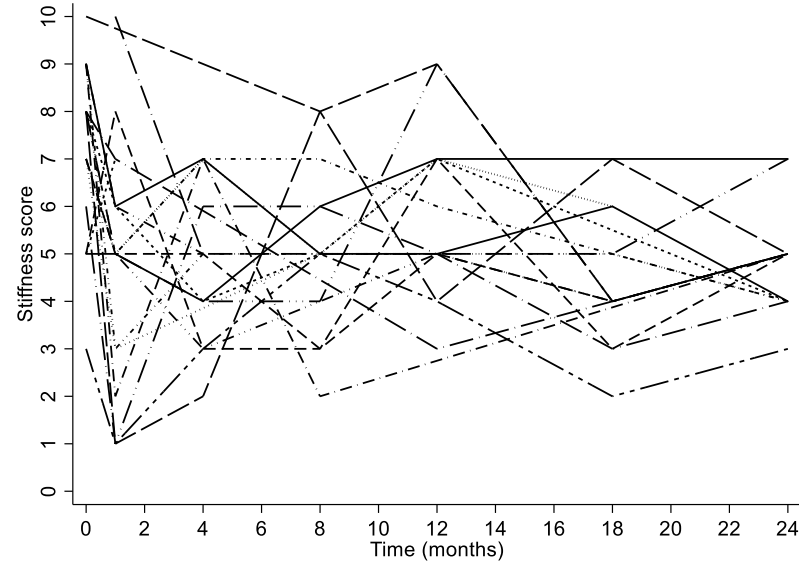
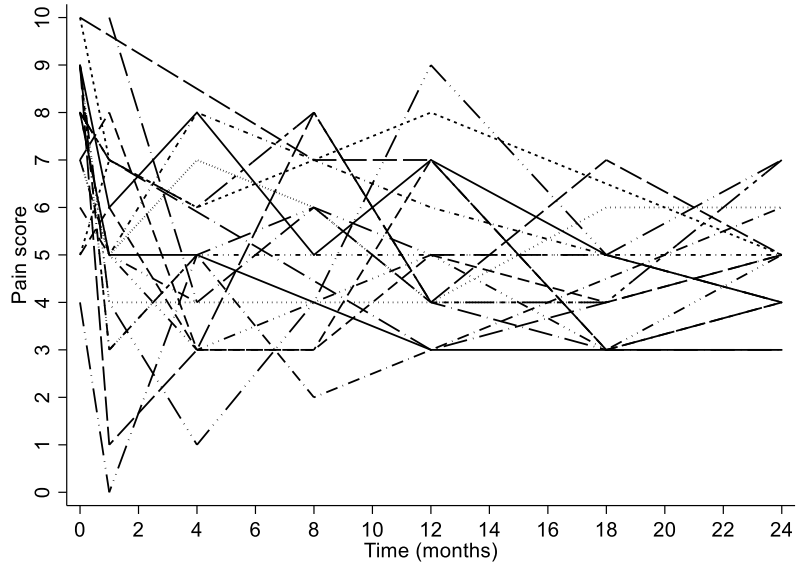
b. Stiffness



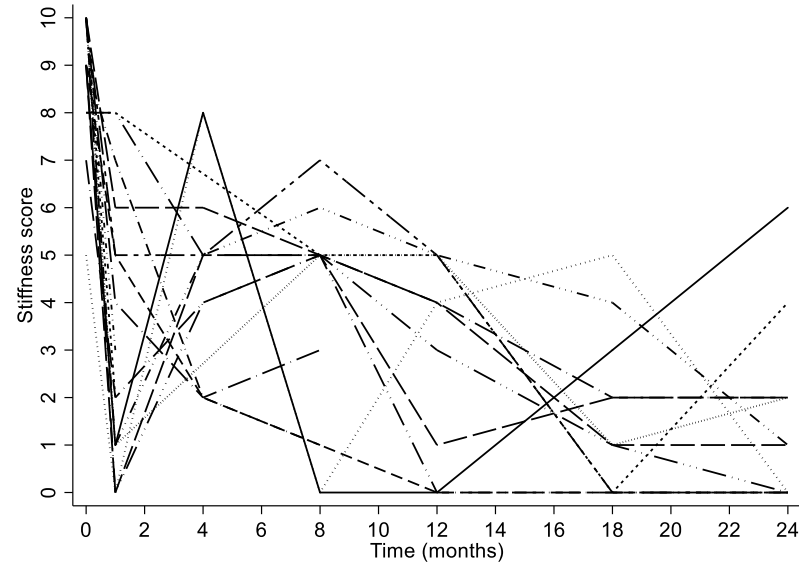
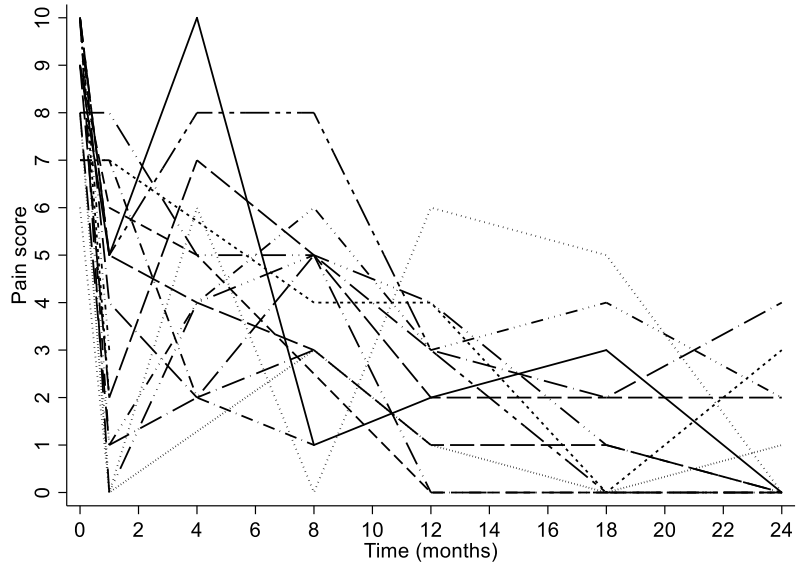
Supplementary Figure S10. Individual trajectories of pain and stiffness within the five clusters (n=453)



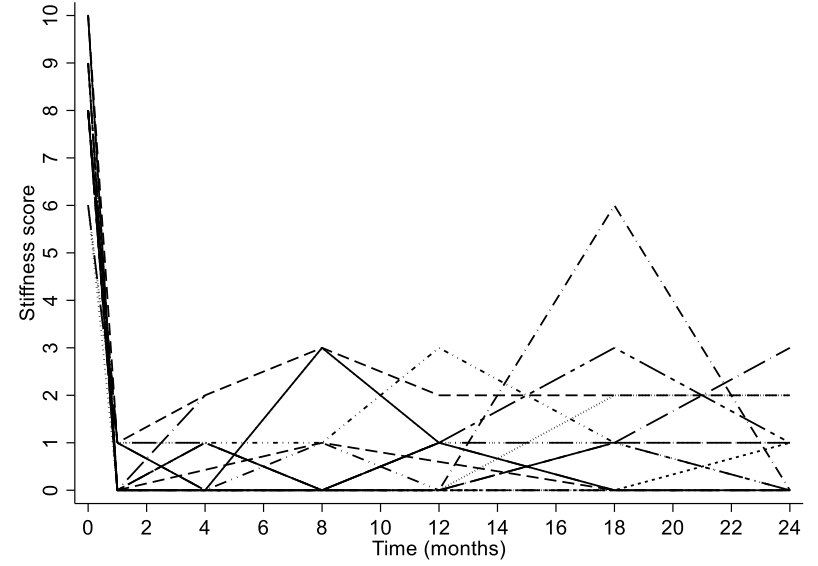
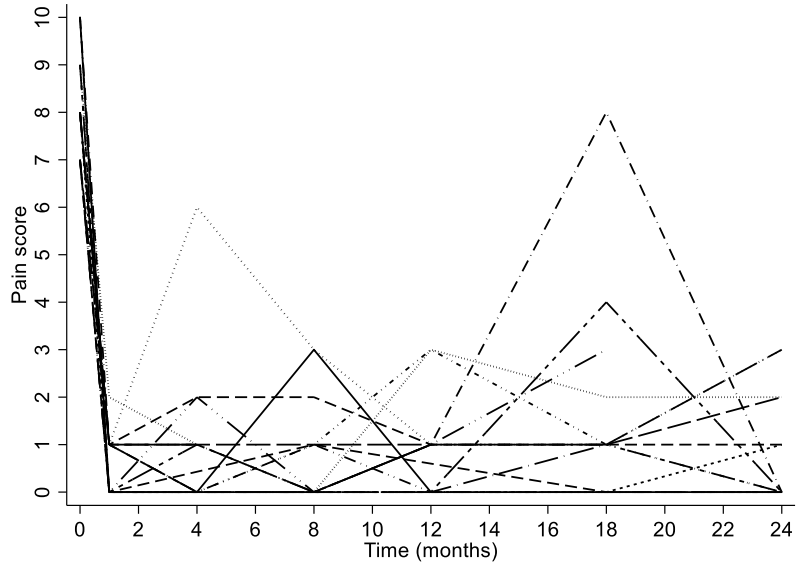
2 - Partial recovery and sustained moderate symptoms



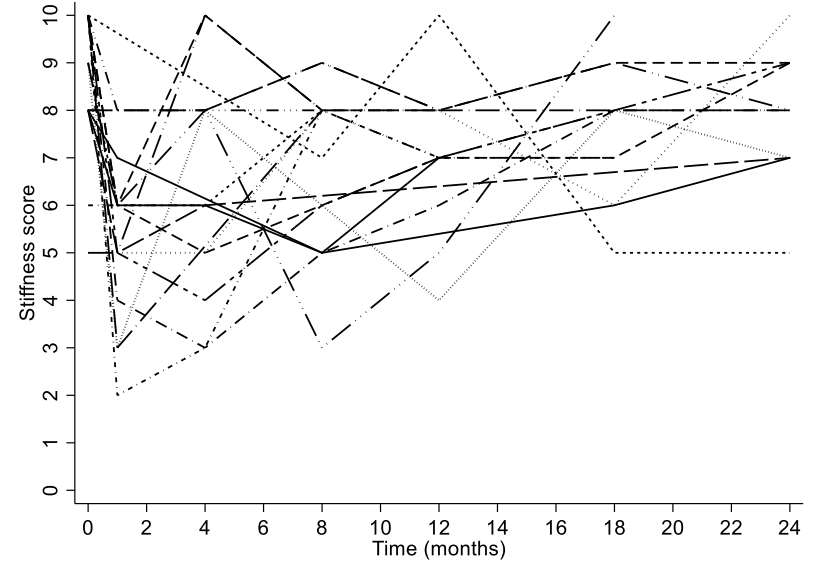
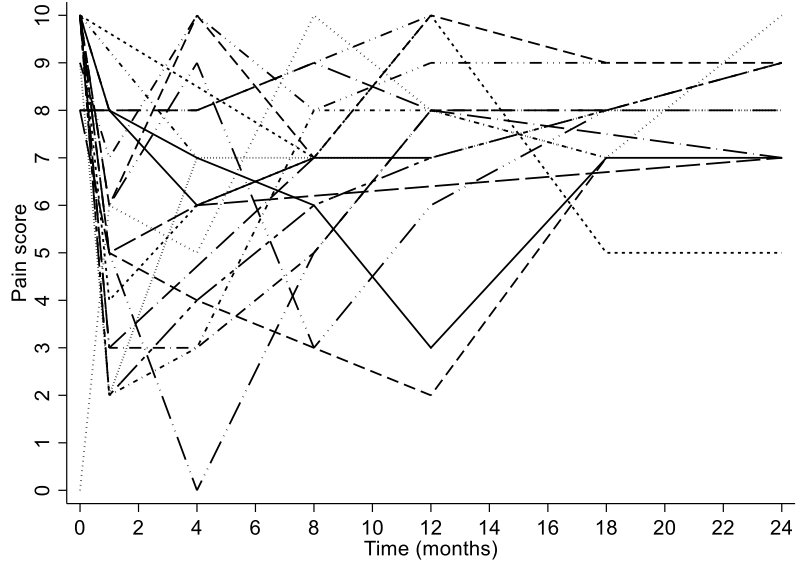
3 - Rapid and sustained recovery



4 - Slow and continuous recovery



5 - Sustained symptoms



Supplementary Table S6. Comparison of individual classifications in whole sample and tighter PMR definition group (n=453)

n (%)		Cluster in whole sample (n=650)				
		Sustained symptoms	Partial recovery with sustained moderate symptoms	Recovery before worsening	Rapid and sustained recovery	Slow and continuous recovery
Cluster in tighter PMR definition group sample	Severe sustained symptoms	22 (42.3)	18 (11.5)	0 (0.0)	0 (0.0)	0 (0.0)
	Partial recovery with sustained moderate symptoms	2 (3.9)	86 (54.8)	4 (3.8)	0 (0.0)	3 (2.7)
	Recovery before worsening	0 (0.0)	0 (0.0)	62 (58.5)	0 (0.0)	0 (0.0)
	Rapid and sustained recovery	0 (0.0)	5 (3.2)	2 (1.9)	157 (70.1)	3 (2.7)
	Slow and continuous recovery	0 (0.0)	9 (5.7)	7 (6.6)	2 (0.9)	71 (64.0)
	Excluded	28 (53.9)	39 (24.8)	31 (29.3)	65 (29.0)	34 (30.6)