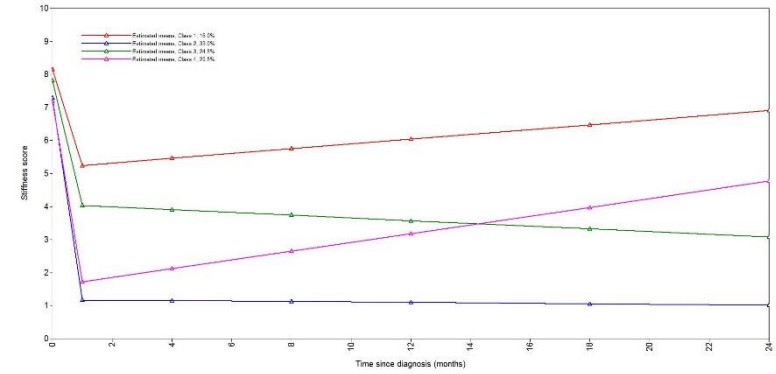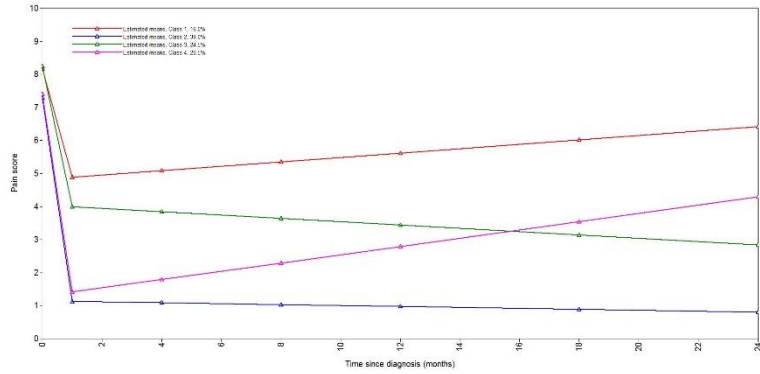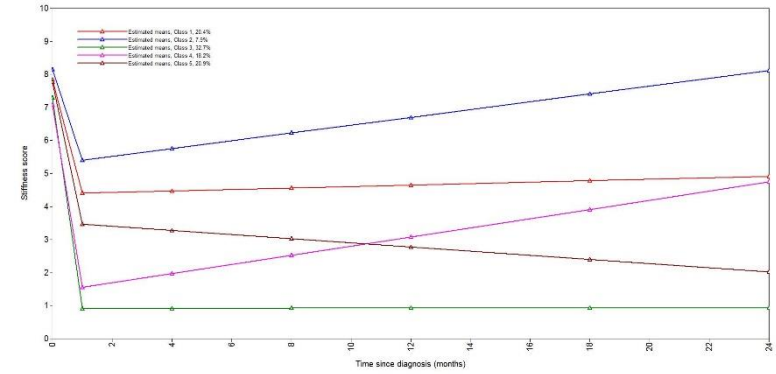**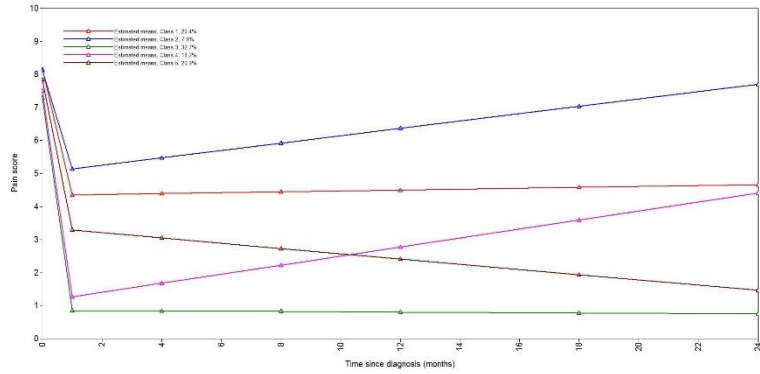Supplementary Figure S5: Fitted (a) pain and (b) stiffness trajectories with varying numbers of clusters fitted (n=360)**

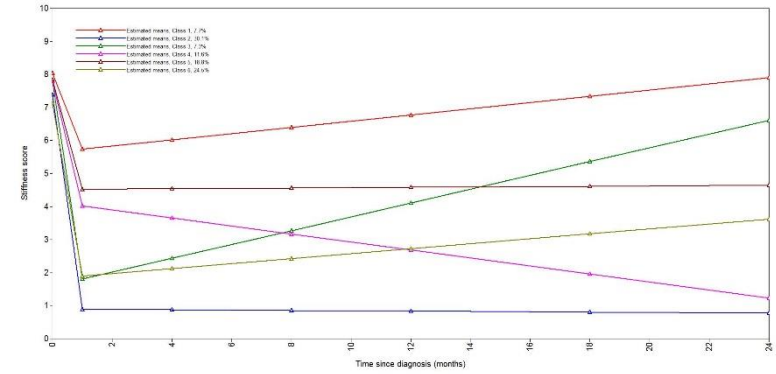| Number of clusters	Fitted pain trajectories	Fitted stiffness trajectories
1		
2		
3		
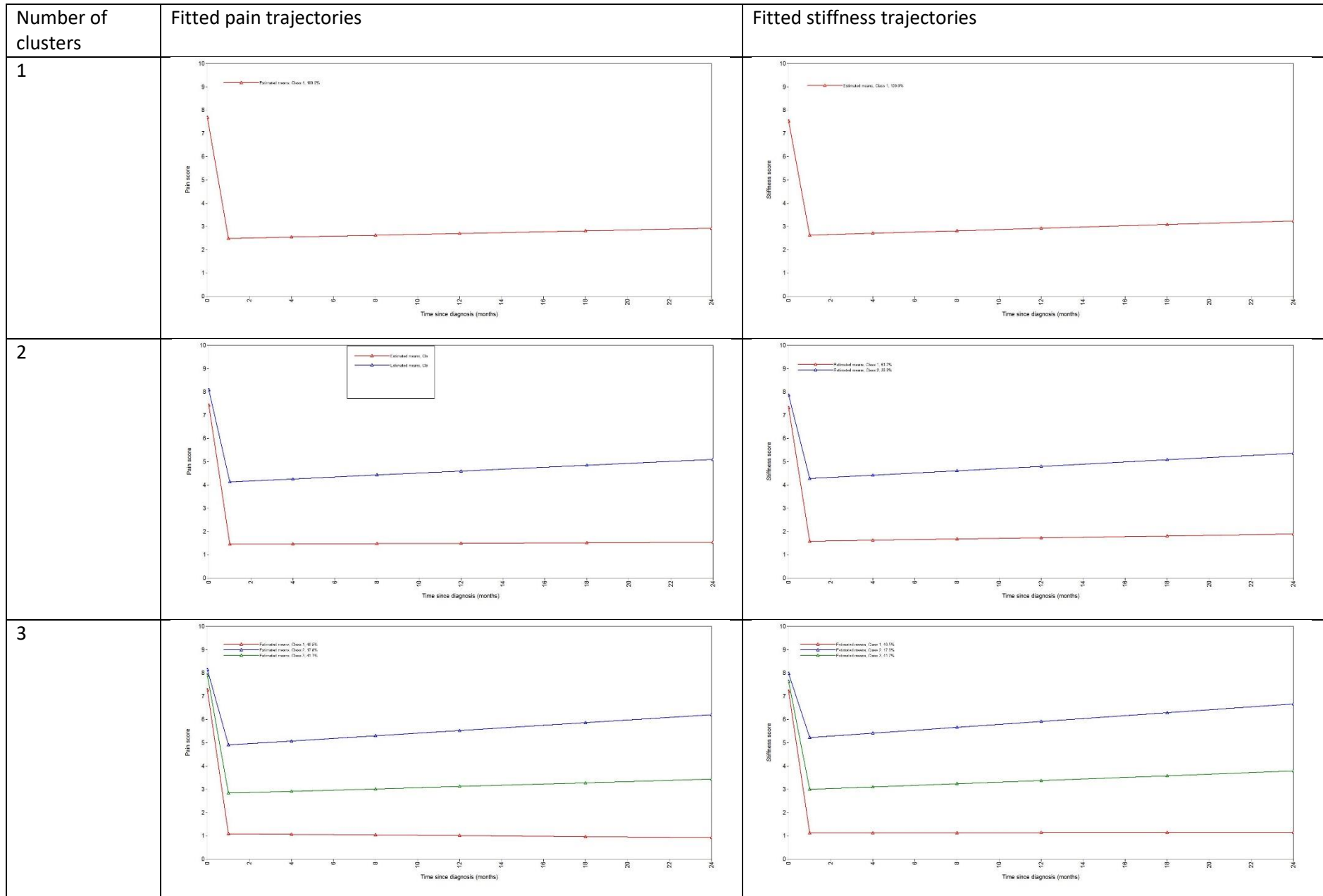
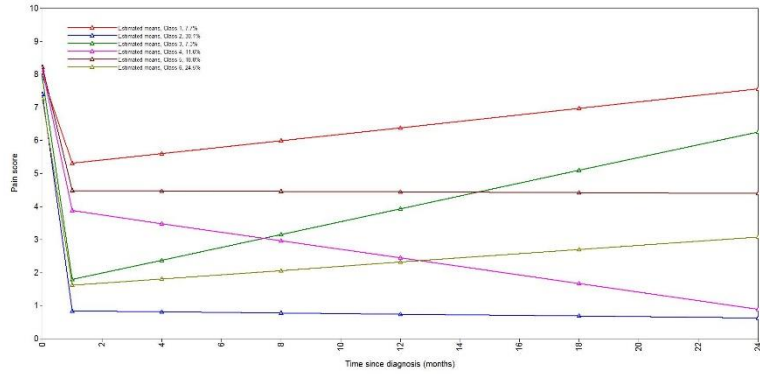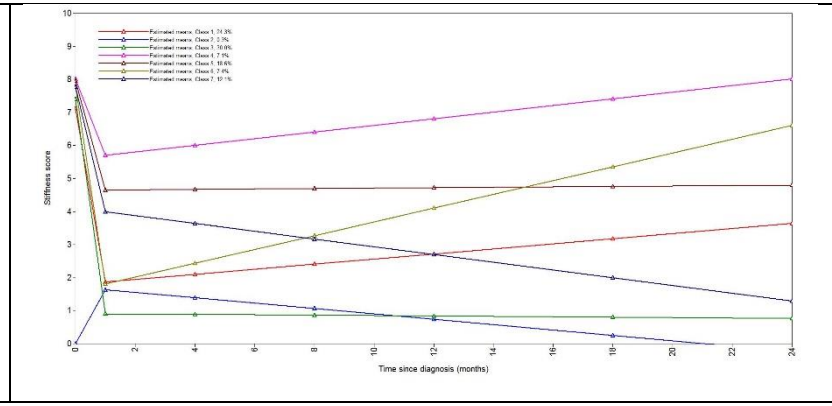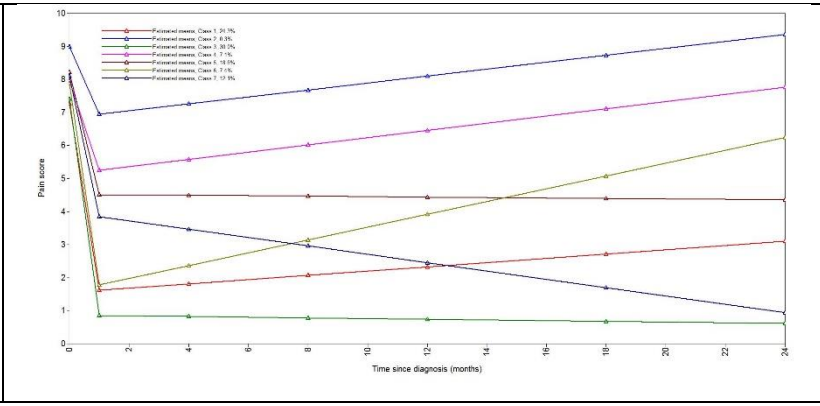|		
4		
5		
6		

7

Supplementary Table S3. Latent Class Growth Analysis (LCGA) – piecewise model selection (n=360)

| Cluster	AIC	BIC	ABIC	Entropy	VLMR LRT	Adjusted LMR LRT	PB LRT	Cluster sizes	Average posterior probability of cluster membership
1	22887	22965	22901	N/A	N/A	N/A	N/A	360	1.00
2	21236	21340	32366	0.912	0.0014	0.0017	<0.0001	217, 143	0.97, 0.98
3	20760	20892	20785	0.896	0.2179	0.2229	<0.0001	145, 64, 151	0.96, 0.95, 0.95
4	20573	20732	20602	0.880	0.1857	0.1894	<0.0001	57, 139, 93, 71	0.96, 0.97, 0.93, 0.87
5	20366	20552	20400	0.887	0.0586	0.0615	<0.0001	72, 28, 120, 67, 73	0.93, 0.95, 0.97, 0.92, 0.87
6	20283	20497	20323	0.893	0.6032	0.6073	<0.0001	28, 108, 25, 40, 68, 91	0.97, 0.95, 0.88, 0.86, 0.93, 0.91
7	20216	20457	20260	0.905	0.3633	0.3672	<0.0001	90, 1, 107, 25, 68, 25, 44	0.89, 1.00, 0.96, 0.97, 0.93, 0.94, 0.88

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.>18). 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
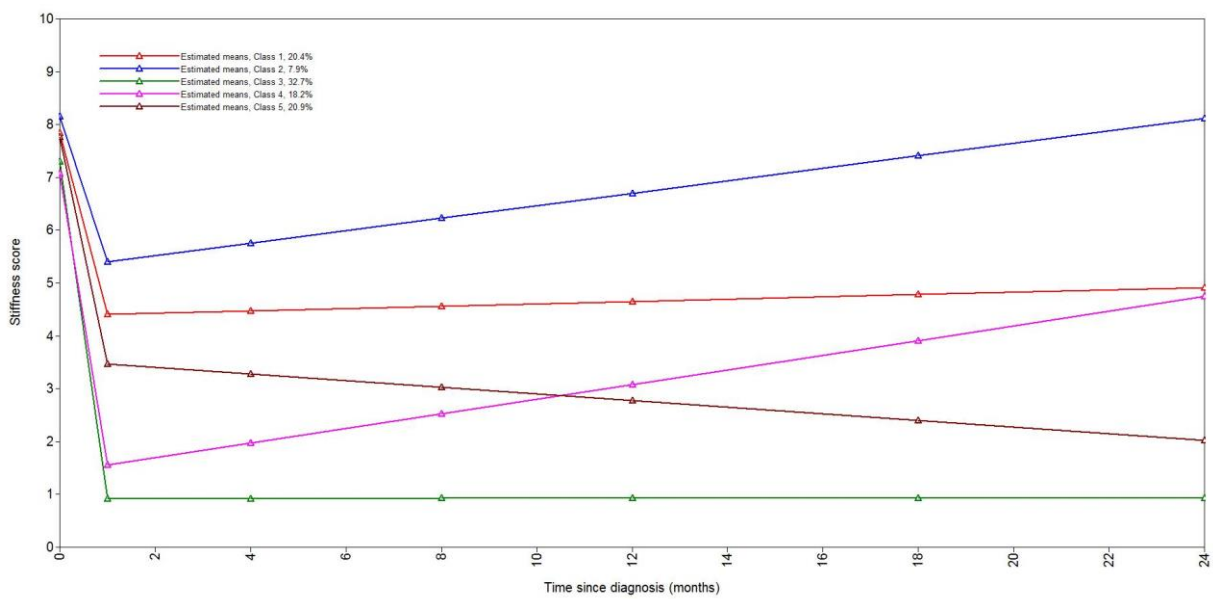
Supplementary Figure S6. Fitted latent growth curves of pain and stiffness in 5 cluster model (n=453)
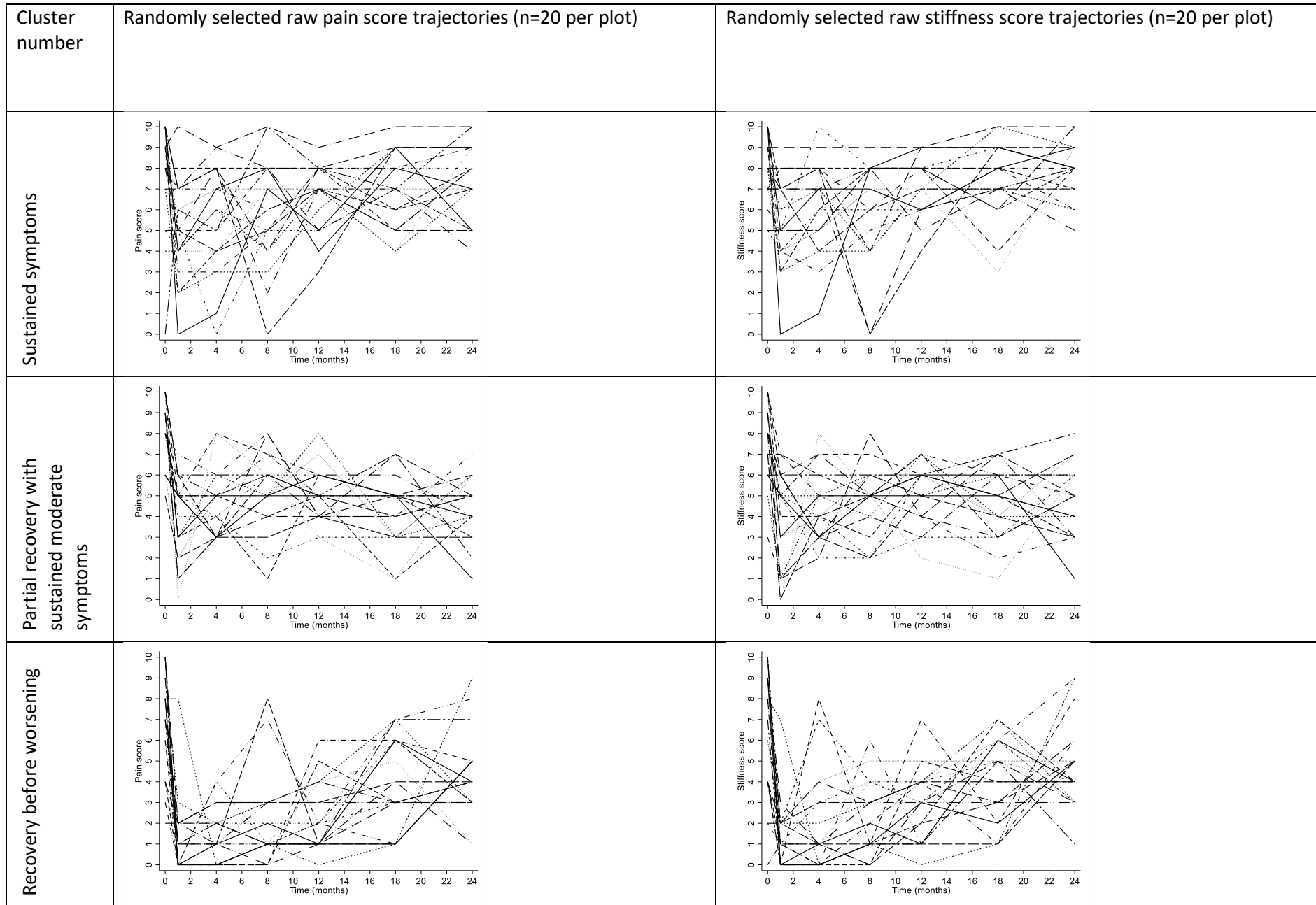
a. Pain
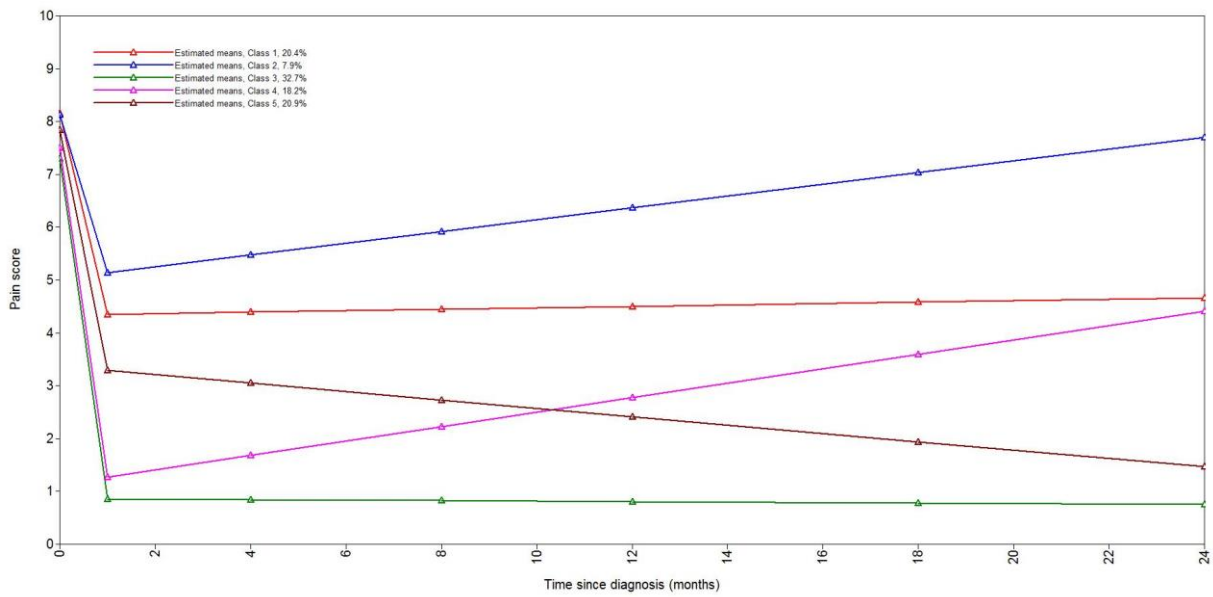
Cluster 1 - Partial recovery with sustained moderate symptoms; Cluster 2 - Sustained symptoms Cluster 3 - Rapid and sustained recovery; Cluster 4 - Recovery before worsening; Cluster 5 - Slow and continuous recovery;

b. Stiffness

Supplementary Figure S7: Individual trajectories of pain and stiffness within the five clusters (n=360)

Cluster number	Randomly selected raw pain score trajectories (n=20 per plot)	Randomly selected raw stiffness score trajectories (n=20 per plot)
Sustained symptoms		
Partial recovery with sustained moderate symptoms		
Recovery before worsening		

Rapid and sustained recovery
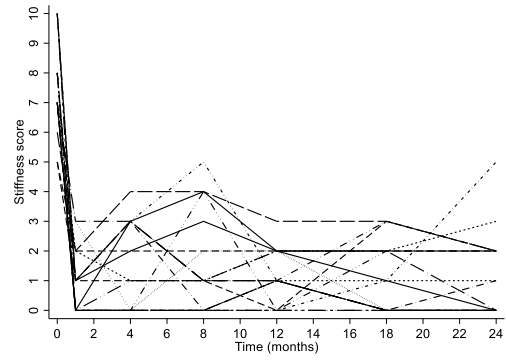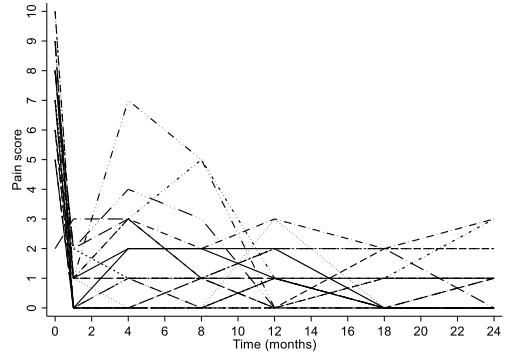
Slow and continuous recovery
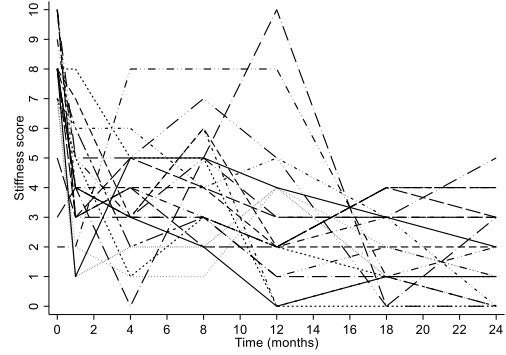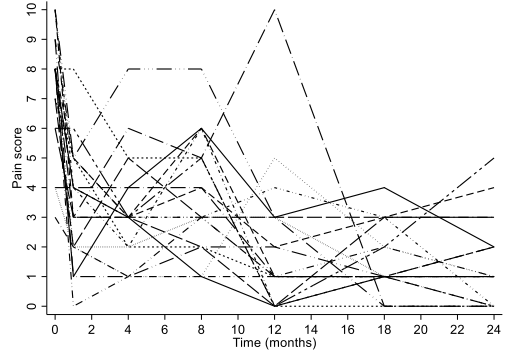
Supplementary Table S4. Comparison of individual classifications in whole sample (n=652) and complete data (n=360)

n (%)		Cluster in whole sample (n=650)				
		Severe sustained symptoms	Partial recovery, sustained moderate symptoms	Recovery before worsening	Rapid and sustained recovery	Slow and continuous recovery
Cluster in complete data	Sustained symptoms	14 (26.9)	14 (8.9)	0	0	0
	Partial recovery with sustained moderate symptoms	0	66 (42.0)	2 (1.89)	0	4 (3.6)
	Recovery before worsening	0	0	67 (63.2)	0	0
	Rapid and sustained recovery	0	0	0	120 (53.6)	0
	Slow and continuous recovery	0	0	4 (3.8)	6 (2.7)	63 (56.8)
	Excluded	38 (73.1)	77 (49.0)	33 (31.1)	98 (43.8)	44 (39.6)