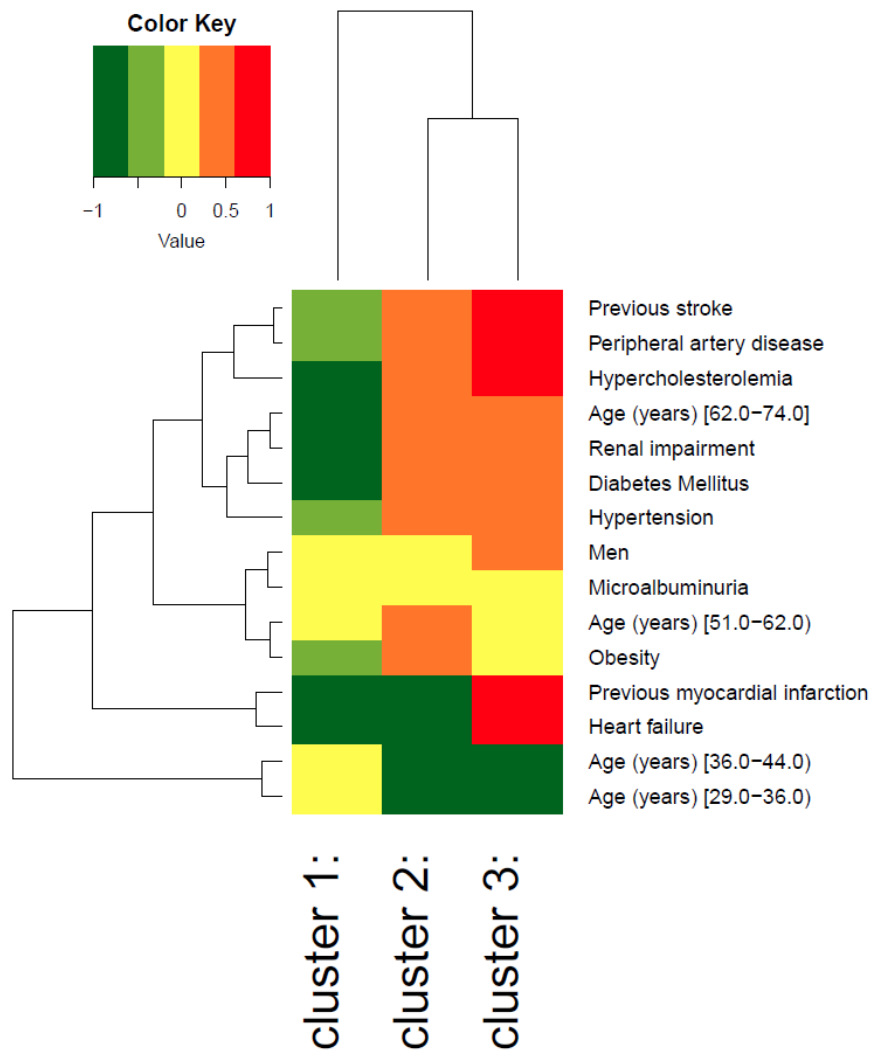


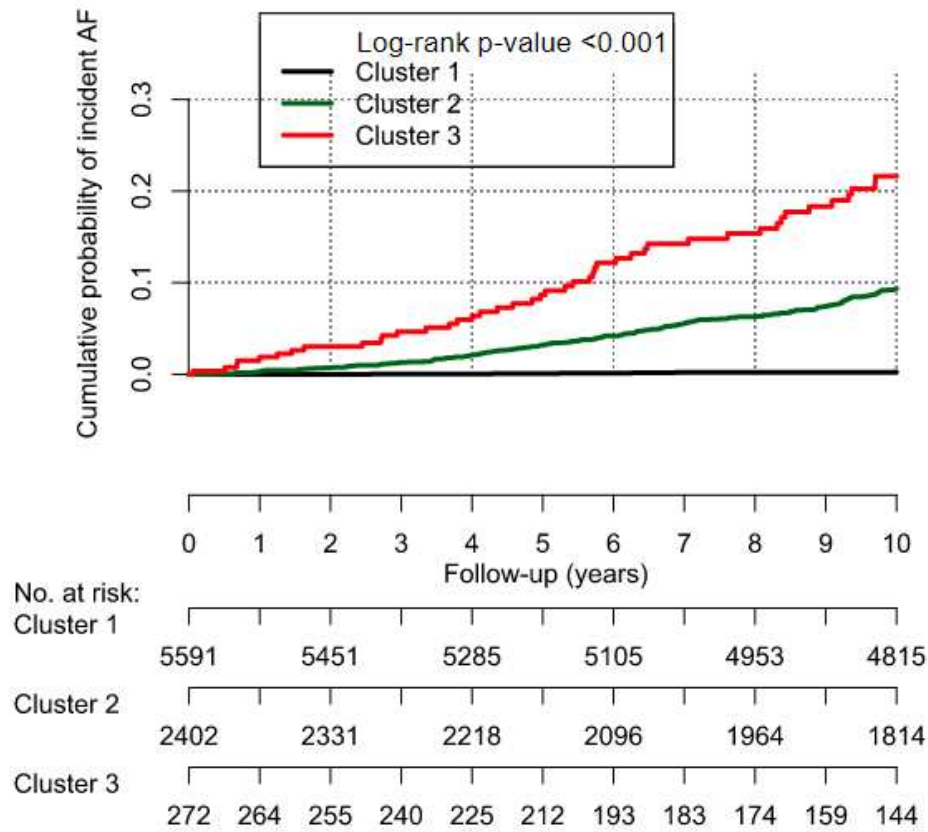
Supplementary table 1. Characteristics of the population by latent classes

Characteristic	Class 1 (n=5591)	Class 2 (n=2402)	Class 3 (n=272)	p-value
Age (years)	43.2 ± 9.9	60.5 ± 8.5	63.8 ± 7.9	<0.001
Men	2584 (46.2%)	1313 (54.7%)	223 (82.0%)	<0.001
Caucasian ethnicity	5273 (95.0%)	2308 (97.2%)	263 (97.8%)	<0.001
Follow-up duration (years)	9.3 ± 2.0	9.2 ± 2.1	8.3 ± 2.7	<0.001
Number of comorbidities	1.0 (0.0 – 1.0)	2.0 (2.0 – 3.0)	4.0 (3.0 – 4.0)	<0.001
0	1410 (26.4%)	14 (0.6%)	0 (0.0%)	
1-3	3938 (73.6%)	1980 (89.2%)	112 (44.8%)	
≥4	0 (0.0%)	225 (10.1%)	138 (55.2%)	
Hypertension	362 (6.7%)	2015 (85.5%)	165 (63.0%)	<0.001
Heart failure	0 (0.0%)	0 (0.0%)	18 (6.6%)	<0.001
Diabetes Mellitus	17 (0.3%)	254 (10.8%)	39 (14.7%)	<0.001
Hypercholesterolemia	28 (0.5%)	202 (9.0%)	131 (50.0%)	<0.001
Obesity	518 (9.4%)	718 (30.2%)	51 (18.9%)	<0.001
Previous myocardial infarction	2 (0.0%)	0 (0.0%)	249 (92.2%)	<0.001
Previous stroke	22 (0.4%)	44 (1.8%)	15 (5.6%)	<0.001
Peripheral artery disease	60 (1.1%)	184 (8.1%)	47 (18.7%)	<0.001
Renal impairment	34 (0.6%)	375 (15.7%)	57 (21.0%)	<0.001
Microalbuminuria	3639 (65.1%)	1899 (79.1%)	221 (81.2%)	<0.001

Secondary latent class analysis, based on age, sex, ethnicity, hypertension, heart failure, diabetes mellitus, hypercholesterolemia, obesity, previous myocardial infarction, previous stroke, peripheral artery disease, renal impairment, microalbuminuria and incident atrial fibrillation.



Supplementary figure 1. Heat map of individual cardiovascular and renal comorbidities within each cluster The colours represent the log relative risk of the presence of the comorbidity compared to the average individual in this cohort. The branching diagrams represent the hierarchy of categories based on degree of similarity between the comorbidities (rows) or clusters (columns).



Supplementary figure 2. Cumulative probability of incident AF by comorbidity clusters