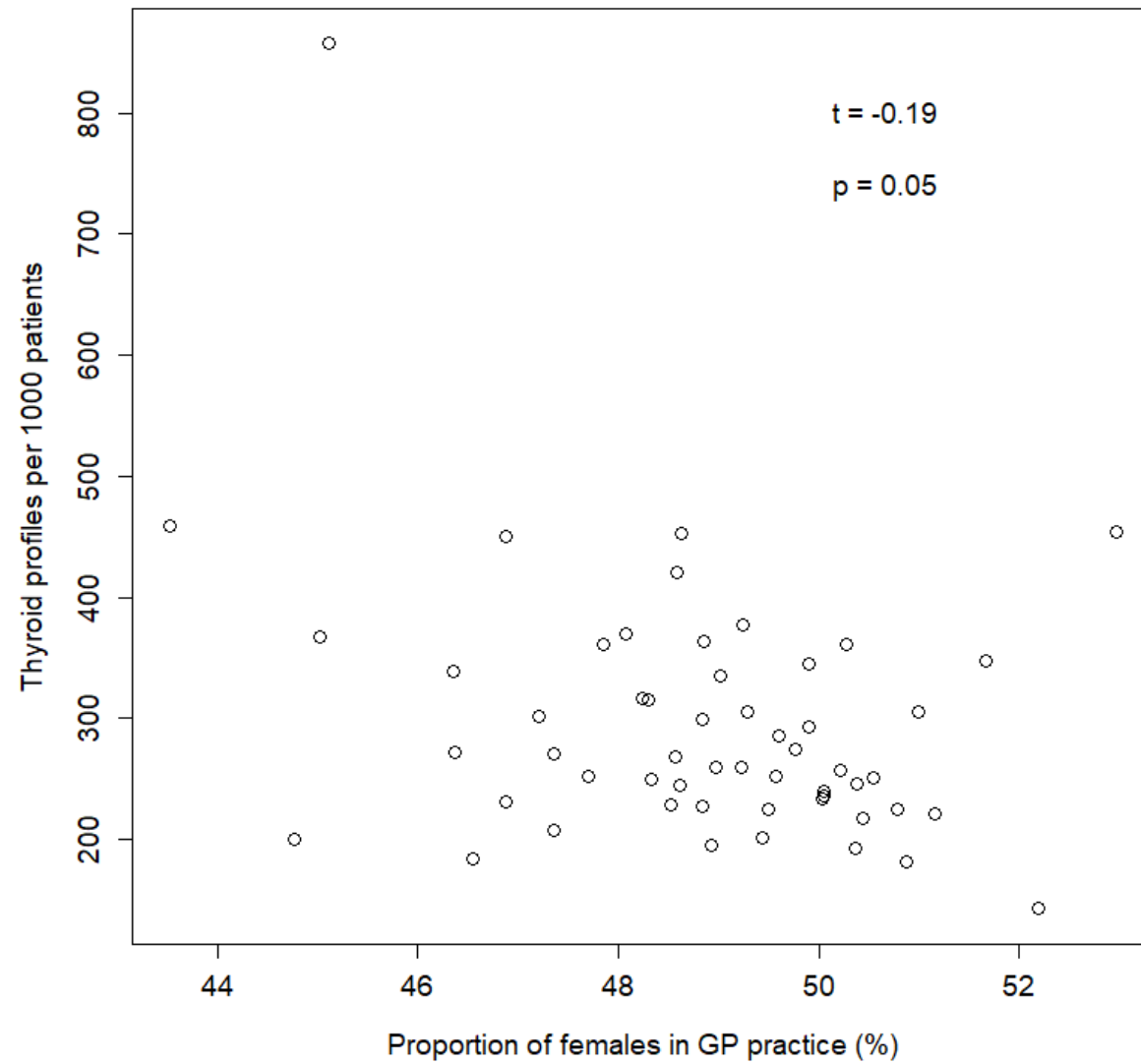


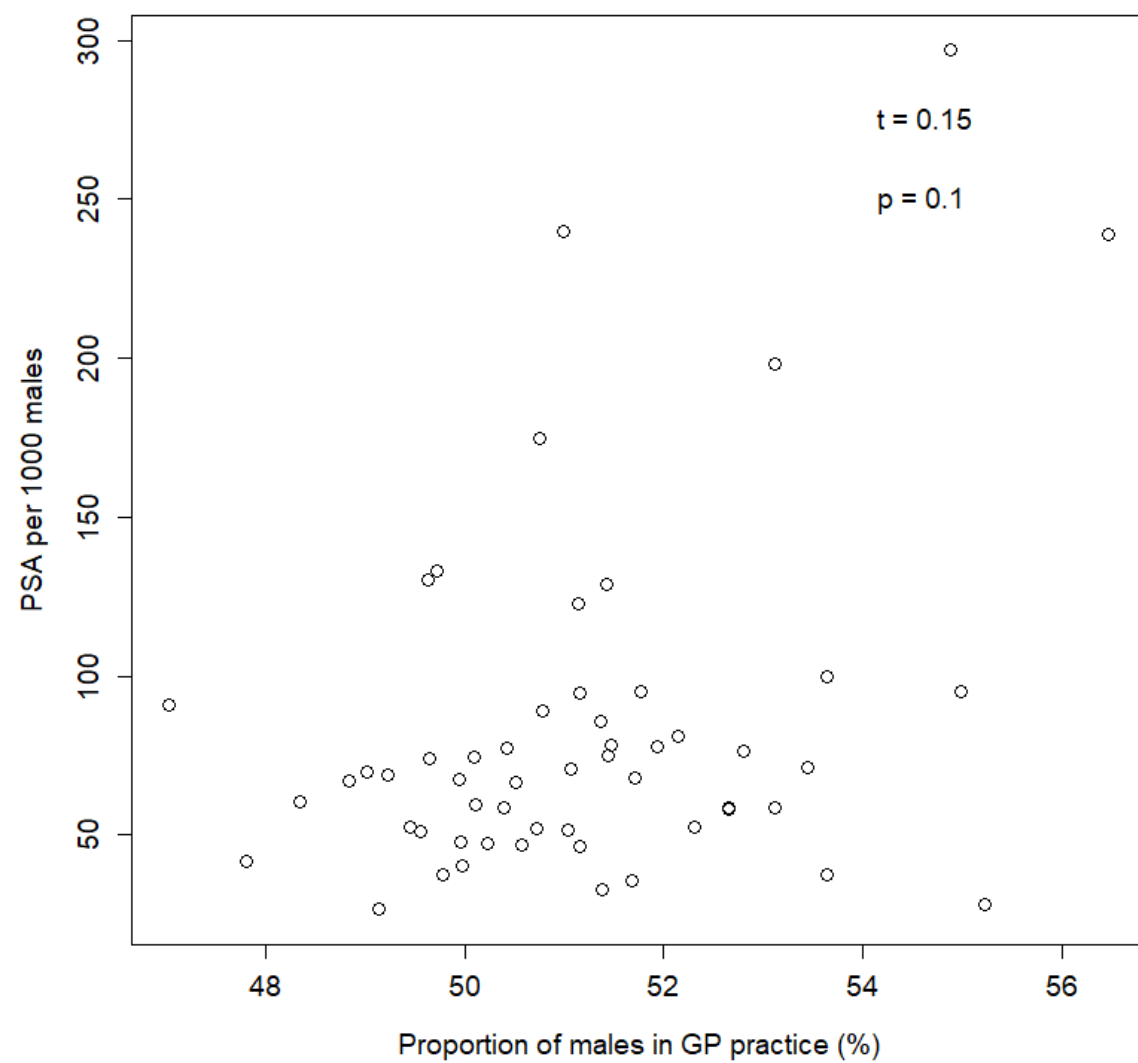
**Supplementary Table S1.** The relationship between test requesting rates and demographic characteristics of patient population. Kendall's correlation coefficient tau:  $\tau$ . p-value associated with  $\tau$ :  $p_{Kendall}$ . Bonferroni-corrected significance cut-off:  $\alpha = p_{fwe}/n < 0.0125$  where  $p_{fwe} < 0.05$  is the family wise error probability and  $n = 4$  is the number of tested associations.

Age group	Electrolyte profiles	Lipid profiles	Thyroid profiles	Liver profiles
≥ 65 years old				
$\tau$	0.21	0.23	0.08	0.20
$p_{Kendall}$	0.04	0.02	0.4	0.05

**Supplementary Figure S1.** The relationship between the percentage of females in individual GP practices and requesting rates for thyroid profiles.



**Supplementary Figure S2.** The relationship between the percentage of males in individual GP practices and requesting rates for PSA.



**Supplementary Table S2.** The relationship between test requesting rates and socioeconomic factors. Kendall's correlation coefficient tau:  $\tau$ ;  $p$ -value associated with  $\tau$ :  $p_{Kendall}$ . Bonferroni-corrected significance cut-off:  $\alpha = p_{fwe}/n < 0.003125$  where  $p_{fwe} < 0.05$  is the family wise error probability and  $n = 16$  is the number of tested associations.

	Electrolyte profiles	Lipid profiles	PSA	Thyroid profiles	HbA1c	Liver profiles	ACR	Immunoglobulins
Multiple Deprivation Measure								
$\tau$	0.034	0.116	0.180	0.119	0.012	0.083	-0.094	-0.167
$p_{Kendall}$	0.7	0.2	0.05	0.2	0.9	0.4	0.3	0.08
Health Deprivation & Disability								
$\tau$	0.124	0.256	0.209	0.239	0.062	0.185	-0.021	-0.156
$p_{Kendall}$	0.2	0.007	0.013	0.01	0.5	0.05	0.8	0.1