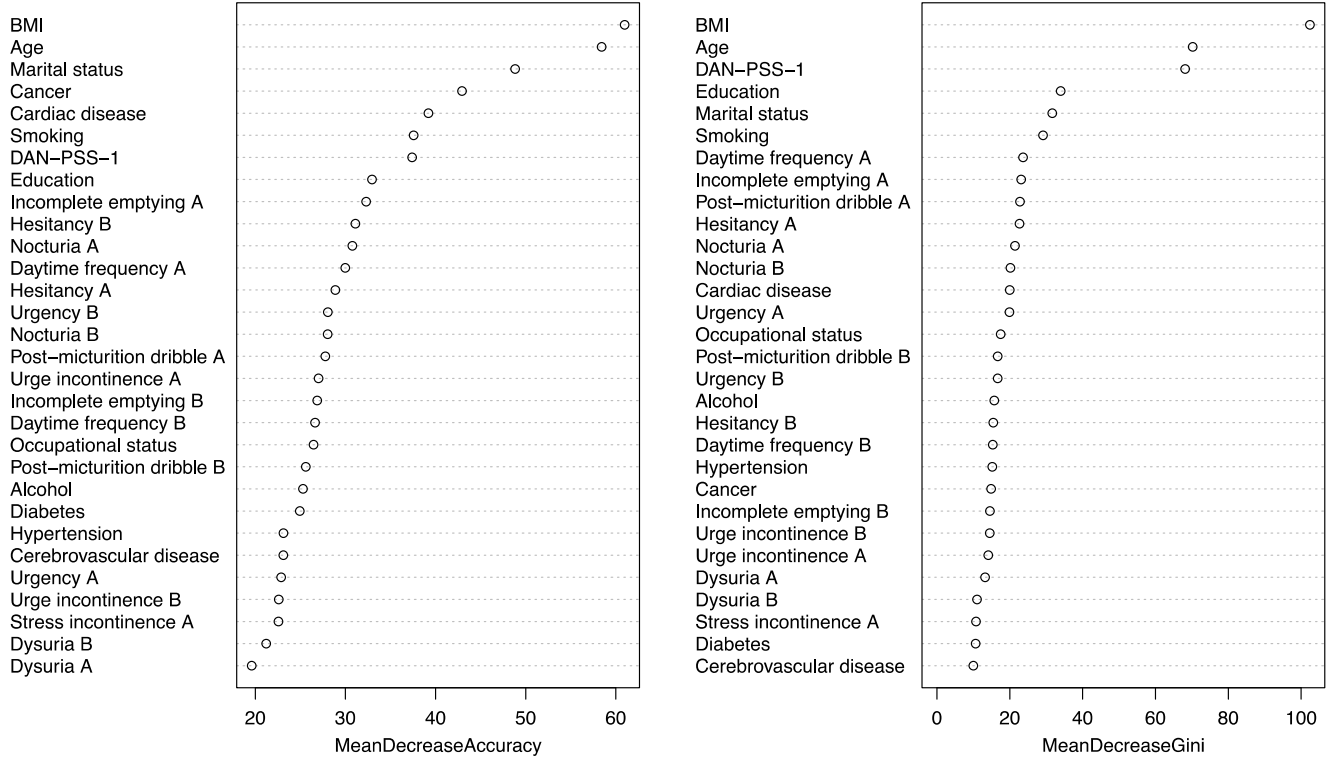
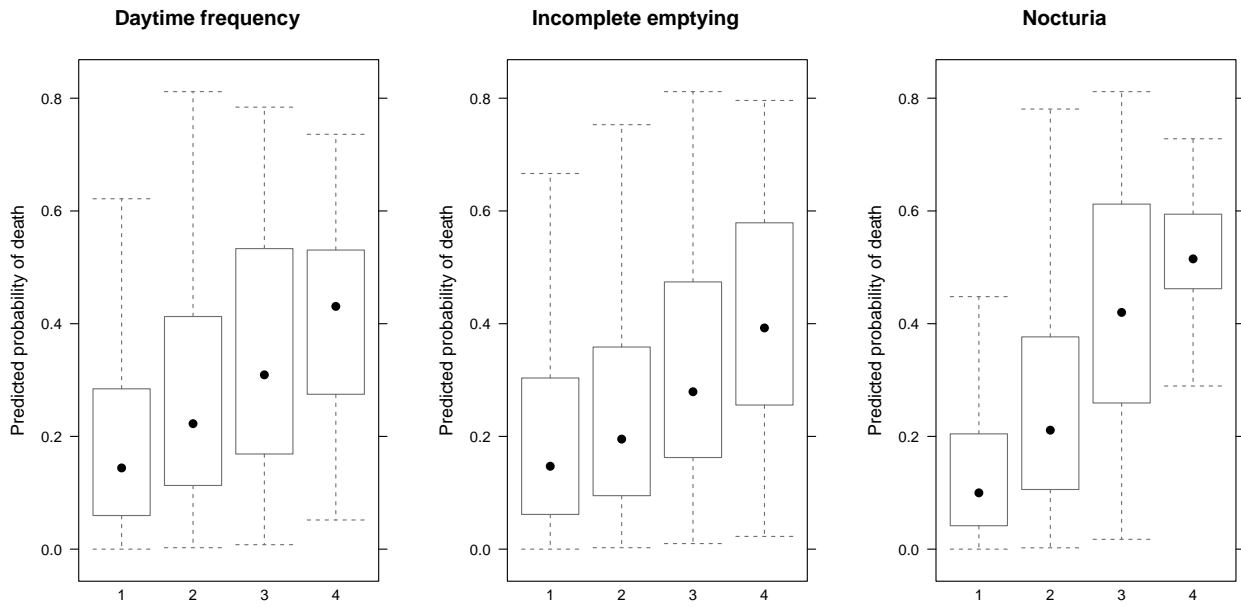


### Variable Importance Plot



Abbreviations: BMI, body mass index; DAN-PSS-1, Danish Prostatic Symptom Score

**Supplementary Figure 1.** The variable importance plot of the random forest algorithm



**Supplementary Figure 2.** The variation of predicted probability of death between the variable values for different LUTS variables (daytime frequency, incomplete emptying and nocturia).

**Supplementary Table 1.** Characteristics of the study population based on the questionnaire in each round.

	1994	1999	2004	2009	2015
Number of men	2034 (%)	2052 (%)	1830 (%)	1377 (%)	1097 (%)
Year of birth					
1924	554 (27)	440 (21)	295 (16)	148 (11)	64 (6)
1934	706 (35)	715 (35)	629 (34)	468 (34)	357 (33)
1944	774 (38)	897 (43)	906 (50)	761 (55)	676 (62)
Marital status					
Married or cohabiting	1612 (79)	1600 (78)	1399 (77)	1051 (76)	819 (75)
Divorced	200 (10)	190 (9)	201 (10)	138 (10)	102 (9)
Widower	88 (4)	109 (9)	116 (6)	113 (8)	111 (10)
Single	131 (6)	127 (6)	109 (6)	69 (5)	55 (5)
Occupational status					
Working	781 (38)	732 (36)	444 (24)	100 (7)	16 (2)
Retired	1020 (50)	1196 (58)	1288 (70)	1268 (92)	1078 (99)
Unemployed	222 (11)	109 (5)	96 (5)	9 (0.7)	0 (0)
Education					
Primary school	1034 (51)	918 (45)	755 (41)	513 (37)	357 (33)
Vocational school	583 (29)	572 (28)	634 (35)	476 (35)	365 (33)
Post-secondary level	256 (13)	257 (13)	261 (14)	240 (17)	199 (18)
University or university of applied sciences	147 (7)	165 (8)	174 (10)	147 (11)	118 (11)
Smoking					
Stopped smoking	888 (44)	708 (35)	760 (42)	542 (39)	388 (35)
Current smoker	467 (23)	394 (19)	324 (18)	198 (14)	105 (10)
BMI					
< 20	30 (2)	30 (2)	25 (1)	19 (1.4)	15 (1)
20-30	1648 (81)	1602 (78)	1413 (77)	1067 (76)	853 (78)
>30	338 (17)	344 (17)	351 (19)	248 (18)	206 (19)
Diabetes	157 (8)	180 (9)	224 (12)	227 (17)	262 (24)
Cardiac disease	371 (18)	402 (20)	427 (23)	368 (27)	343 (31)
Hypertension	592 (29.)	709 (35)	798 (44)	646 (47)	579 (53)
Cerebrovascular disease	129 (6)	125 (6)	110 (6)	89 (7)	99 (9)
Cancer	61 (3)	107 (5)	173 (10)	186 (14)	185 (17)
DAN-PSS-1					
0-7	1673 (82)	1187 (58)	1017 (56)	752 (55)	582 (53)
8-18	198 (10)	219 (11)	279 (15)	182 (13)	193 (18)
≥19	38 (2)	65 (3)	97 (5)	69 (5)	49 (5)

Abbreviations: BMI, body mass index; DAN-PSS-1, Danish Prostatic Symptom Score