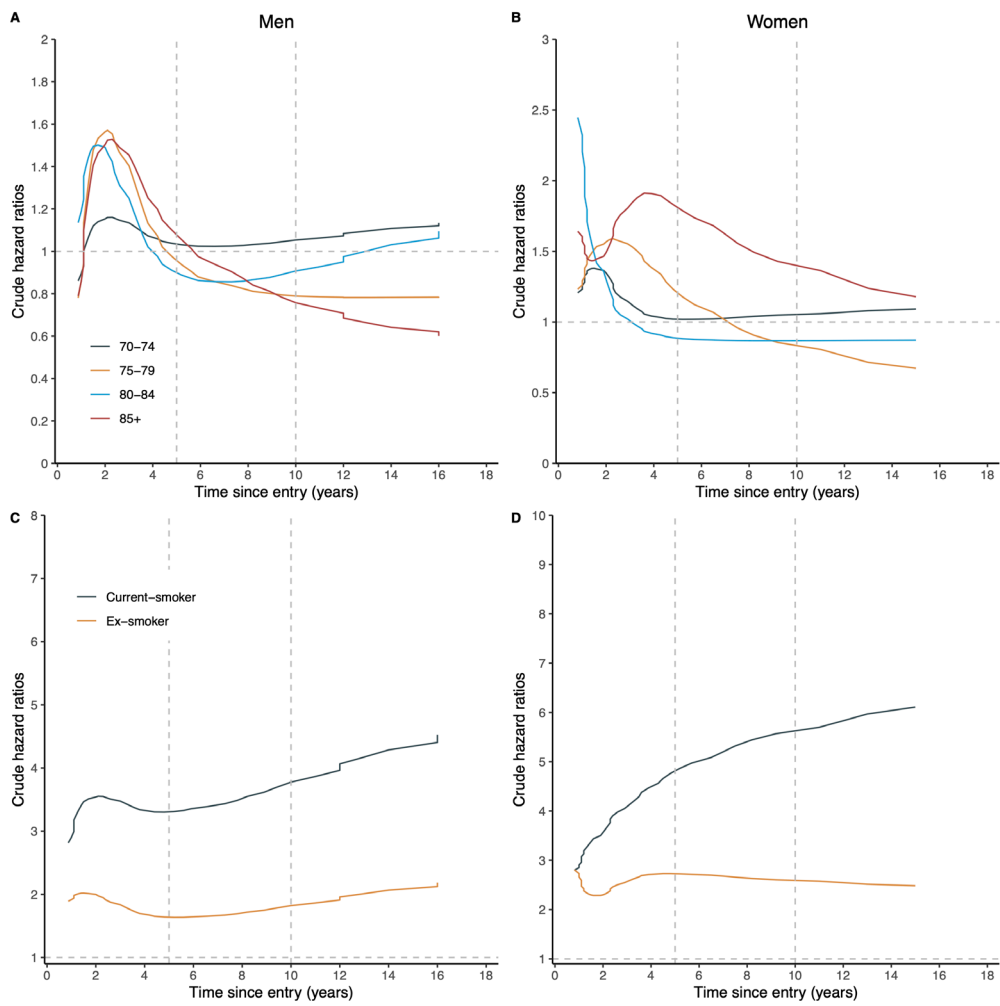**Figure S1** Incidence rate (per 1,000 person-years) of COPD in the derivation cohort for both men and women.
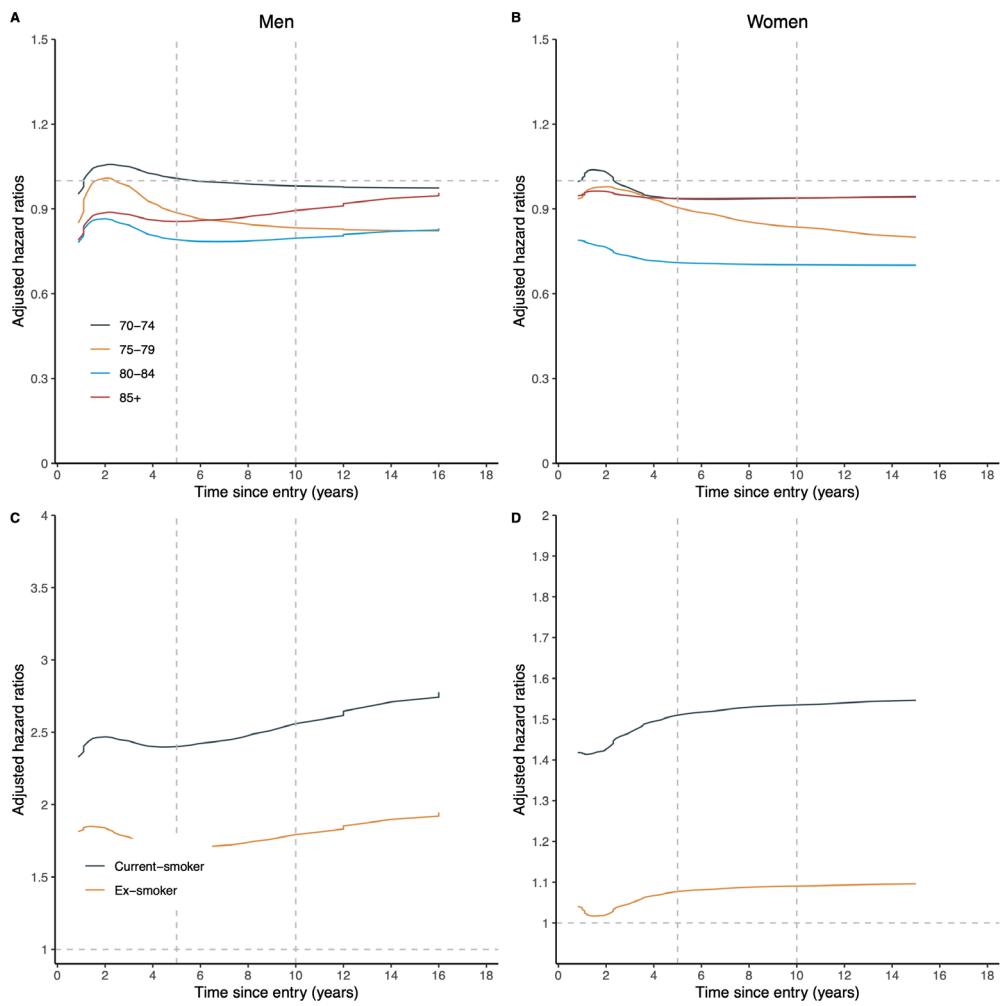
Table S1 Sex-specific adjusted HR (95% CI) for the recalibrated Kotz model in the derivation cohort

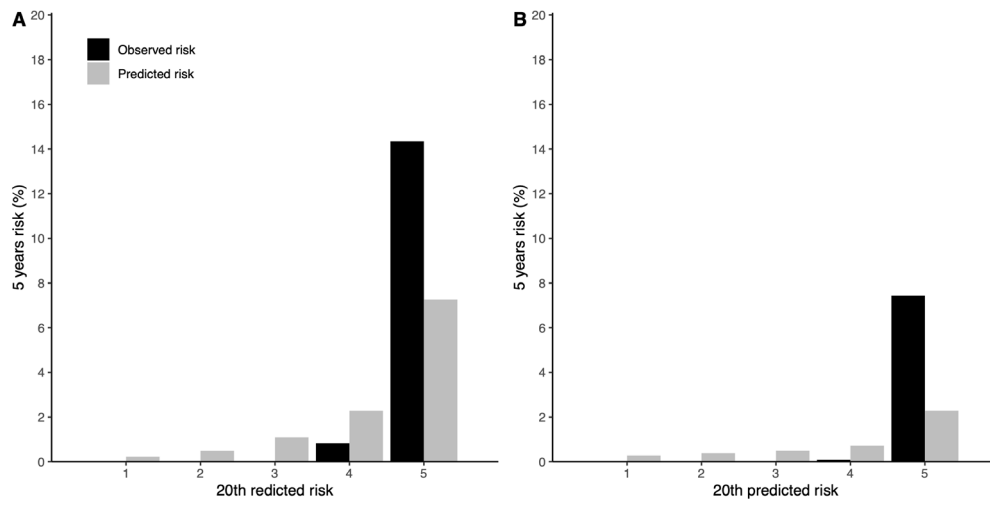| Characteristics	Men		Women	
	Coefficients	Adjusted HR (95% CI)	Coefficients	Adjusted HR (95% CI)
Age (years)	0.0029	1.00 (1.00–1.01)	−0.0003	1.00 (1.00–1.00)
Public assistance (yes)	0.3319	1.39 (1.33–1.46)	0.2317	1.26 (1.20–1.32)
Education				
Illiterate		Reference		Reference
Literate but no formal education	−0.0777	0.93 (0.87–0.99)	−0.1114	0.89 (0.86–0.93)
Primary	−0.0692	0.93 (0.86–1.01)	0.0857	1.09 (1.04–1.14)
Secondary or above	−0.2713	0.76 (0.71–0.82)	−0.2967	0.74 (0.70–0.79)
Smoking status				
Never smoker		Reference		Reference
Ex-smoker	0.5813	1.79 (1.71–1.87)	0.8687	2.38 (2.26–2.51)
Current smoker	1.1764	3.24 (3.10–3.40)	1.3117	3.71 (3.49–3.94)
Type of residence				
Public or aided		Reference		Reference
Private (rented)	0.1473	1.16 (1.07–1.26)	0.1079	1.11 (1.02–1.22)
Private (self-owned)	0.1725	1.19 (1.14–1.23)	0.1331	1.14 (1.10–1.19)
Others	0.1162	1.12 (1.03–1.23)	0.5112	1.67 (1.56–1.79)

HR, hazard ratios; 95% CI, 95% confidence interval.

Figure S2 Crude time-varying effects of age and smoking status on the risk of developing COPD in the derivation cohort for both men and women.

Figure S3 Time-varying effects of age and smoking status on the risk of developing COPD with an adjustment for public assistance, alcohol use, BMI, physical activity, existing hypertension, recent falls, and self-rated health status in the derivation cohort for both men and women.

Figure S4 Predicted and observed risk of developing COPD within the next 5 years in the derivation cohort for both men (A) and women (B).

Table S2 Characteristics of participants aged 65 years or older in the validation cohort at study entry for both men and women

Characteristics	Low (n=22,187)	Mild (n=18,028)	Moderate (n=2,236)	High (n=2,237)
No. of COPD cases	73	460	218	462
Person years	289,441	146,977	10,322	7,108
Incidence rate (per 1,000 person-years, 95% CI)	0.25 (0.20–0.32)	3.13 (2.85–3.43)	21.12 (18.41–24.12)	65.00 (59.20–71.20)
Age (years), mean (SD)	71.33 (5.05)	71.92 (5.26)	73.50 (6.17)	74.55 (6.08)
Sex (women)	16,863 (76.0)	11,223 (62.3)	646 (28.9)	266 (11.9)
Smoking status				
Never smoker	19,899 (89.7)	11,634 (64.5)	1,058 (47.3)	174 (7.8)
Ex-smoker	2,175 (9.8)	4,354 (24.2)	614 (27.5)	1,209 (54.0)
Current smoker	113 (0.5)	2,040 (11.3)	564 (25.2)	854 (38.2)
Public assistance (yes)	2,172 (9.8)	2,818 (15.6)	464 (20.8)	606 (27.1)
Education				
Illiterate	5,829 (26.3)	4,236 (23.5)	400 (17.9)	318 (14.2)
Literate but no formal education	3,112 (14.0)	2,528 (14.0)	302 (13.5)	331 (14.8)
Primary	7,858 (35.4)	6,790 (37.7)	802 (35.9)	1,058 (47.3)
Secondary or above	5,388 (24.3)	4,474 (24.8)	732 (32.7)	530 (23.7)
Alcohol consumption				
Never drinker	18,443 (83.1)	15,199 (84.3)	1,803 (80.6)	1,322 (59.1)
Ex-drinker	1,019 (4.6)	901 (5.0)	138 (6.2)	368 (16.5)
Social drinker	2,044 (9.2)	1,230 (6.8)	142 (6.4)	303 (13.5)
Moderate drinker	466 (2.1)	384 (2.1)	64 (2.9)	143 (6.4)
Excessive drinker	215 (1.0)	314 (1.7)	89 (4.0)	101 (4.5)
Body mass index (kg/m^2)				
<18.5	397 (1.8)	1,128 (6.3)	283 (12.7)	351 (15.7)
18.5–<23.0	7,089 (32.0)	6,153 (34.1)	809 (36.2)	866 (38.7)
23.0–<25.0	5,800 (26.1)	3,679 (20.4)	414 (18.5)	396 (17.7)
25.0+	8,901 (40.1)	7,068 (39.2)	730 (32.6)	624 (27.9)
Physical activity (hours per week)				
0	2,472 (11.1)	2,175 (12.1)	362 (16.2)	484 (21.6)
<1.5	2,154 (9.7)	1,190 (6.6)	172 (7.7)	185 (8.3)
1.5–<3.0	3,355 (15.1)	3,080 (17.1)	451 (20.2)	509 (22.8)
3.0–<4.5	3,007 (13.6)	2,070 (11.5)	184 (8.2)	65 (2.9)
4.5+	11,199 (50.5)	9,513 (52.8)	1,067 (47.7)	994 (44.4)
Hypertension (yes)	168 (0.8)	667 (3.7)	41 (1.8)	47 (2.1)
Recent fall (yes)	272 (1.2)	268 (1.5)	49 (2.2)	19 (0.8)
Cognitive function (poor)	1,489 (6.7)	946 (5.2)	134 (6.0)	90 (4.0)
Self-rated health status				
Better	1,472 (6.6)	1,228 (6.8)	158 (7.1)	146 (6.5)
Normal	14,106 (63.6)	9,709 (53.9)	1,168 (52.2)	1,126 (50.3)
Poor	6,609 (29.8)	7,091 (39.3)	910 (40.7)	965 (43.1)

Values are numbers (percentages) of participants unless stated otherwise.

Table S3 Clinical examples with the EHS-COPD

Characteristics	Example			
	1	2	3	4
Age (years)	66	65	65	65
Sex	Women	Women	Men	Men
Body mass index (kg/m^2)	22.5	21.3	26.7	17.8
Education level	Secondary or above	Illustrate	Primary	Secondary or above
Smoking status	Never smoker	Never smoker	Ex-smoker	Current smoker
Public assistance	No	No	No	No
Alcohol consumption	Never drinker	Never drinker	Never drinker	Moderate drinker
Physical activity (hours per week)	0.0	2.6	4.8	0
Hypertension	No	No	No	No
Recent falls	No	No	No	No
Cognitive function	Normal	Normal	Normal	Normal
Self-rated health status	Normal	Worse	Normal	Worse
EHS-COPD 5-year predicted risk	0.0033	0.0333	0.0576	0.2573
Risk stratification	Low	Mild	Moderate	High