

**Supplementary Table 1 Hazard ratio and 95% confidence intervals for chronic pancreatitis by risk score and risk category in derivation cohorts**

<b><u>Risk Score 1</u></b>	<b>Event</b>	<b>Incidence rate (95% CI)</b>	<b>HR (95%CI)</b>	<b>P value</b>	<b>Risk category<sup>1</sup></b>	<b>HR (95%CI)</b>	<b>P value</b>
0	1	0.72 (-0.7-2.14)	1		Low (0-5)	1	
1	3	1.10 (-0.14-2.34)	1.19(0.17,8.48)	0.861			
2	3	1.21 (-0.16-2.59)	1.32(0.19,9.4)	0.781			
3	1	0.61 (-0.58-1.79)	0.86(0.08,8.73)	0.896			
4	0	0 (0-0)	unestimatable				
5	5	2.92 (0.36-5.48)	2.99(0.47,19.03)	0.247			
6	12	7.27 (3.15-11.38)	7.00(1.23,39.75)	0.028	Moderate (6-7)	6.14(3.05,12.35)	<0.001
7	7	9.27 (2.40-16.13)	9.29(1.54,56.14)	0.015			
8	10	20.52 (7.80-33.23)	19.92(3.44,115.35)	<0.001	High(8-11)	23.93(13.4,42.73)	<0.001
9	3	20.01 (-2.63-42.66)	22.12(3.11,157.38)	0.002			
10	42	32.76 (22.85-42.66)	30.71(5.78,163.19)	<0.001			
11	26	39.24 (24.16-54.32)	37.17(6.87,200.96)	<0.001			
			P trend	<0.001			
<b><u>Risk Score 2</u></b>							
0	1	0.72 (-0.7-2.14)	1		Low (0-5)	1	
1	3	1.1 (-0.14-2.34)	1.19(0.17,8.58)	0.8599			
2	3	1.21 (-0.16-2.59)	1.32(0.18,9.5)	0.7821			

3	1	0.61 (-0.58-1.79)	0.86(0.08,8.82)	0.8954			
4	0	0 (0-0)	unestimatable				
5	6	3.03 (0.61-5.46)	3.05(0.49,19.02)	0.2328			
6	14	9.36 (4.46-14.27)	9.03(1.6,51.15)	0.0129	Moderate (6-7)	7.08(3.54,14.14)	<0.001
7	4	8.93 (0.18-17.67)	9.25(1.37,62.2)	0.0222			
8	8	27.34 (8.39-46.28)	27.38(4.57,164.06)	0.0003	High(8-13)	24.15(13.76,42.38)	<0.001
9	9	13.98 (4.85-23.11)	13.65(2.31,80.65)	0.0039			
10	16	22.52 (11.48-33.55)	21.87(3.9,122.69)	0.0005			
11	6	30.88 (6.17-55.59)	31.12(4.99,194.16)	0.0002			
12	28	60.33 (37.98-82.67)	56.78(10.44,308.78)	<.0001			
13	14	67.28 (32.03-102.52)	63.45(11.2,359.3)	<.0001			
			<i>P</i> trend	<0.001			

<sup>1</sup>There is a significant difference in hazard ratio of chronic pancreatitis across two risk categories ( $P < 0.001$ )

**Supplementary Table 2 Adjusted hazard ratios and 95% confidence intervals for chronic pancreatitis associated with recurrent acute pancreatitis, smoking, comorbidities, and medication use after including biliary pancreatitis and obstructive pancreatitis in study cohort**

	Adjusted model (95% CI)	HR <sup>full</sup> <i>P</i>	Adjusted Model (95% CI)	HR <sup>Backward</sup> <i>P</i>	Adjusted HR <sup>Backward+episode</sup> (95% CI)	(95% <i>P</i>
Smoking	1.42(1.02,1.97)	0.036	1.43(1.05,1.95)	0.023	1.44(1.06,1.97)	0.021
RAP	7.98(5.35,11.88)	<0.001	7.93(5.31,11.84)	<0.001		

1 episode				1		
2 episode				5.05(3.15,8.08)		<0.001
3 episode				7.83(4.64,13.22)		<0.001
>3 episode				14.41(9.19,22.6)		<0.001
Geographic location						
Northern Taiwan	1					
Central Taiwan	0.56(0.35,0.89)	0.015				
Southern Taiwan	1.13(0.8,1.6)	0.480				
Eastern Taiwan and Islands	1.14(0.57,2.26)	0.719				
Age category						
Age<55	2.63(1.6,4.3)	<0.001	2.32(1.47,3.65)	<0.001	2.02(1.27,3.21)	0.003
Age≥55	1		1		1	
Gender, male	1.38(0.86,2.2)	0.180				
Income	1.03(0.83,1.28)	0.779				
CCI	1.03(0.93,1.14)	0.551				
Hypertension	1.14(0.76,1.71)	0.537				
Hyperlipidemia	0.81(0.55,1.19)	0.286				
Diabetes mellitus	0.91(0.58,1.44)	0.696				
Chronic kidney disease	1.2(0.68,2.11)	0.531				
Alcohol use-related code	2.73(1.84,4.05)	<0.001	2.96(2.05,4.26)	<0.001	2.58(1.77,3.76)	<0.001

Statin	1.08(0.6,1.92)	0.801
Angiotensin- converting inhibitor	enzyme 1.56(0.85,2.84)	0.151
Prednisolone	1.34(0.38,4.71)	0.650
Sex hormone	0.85(0.23,3.09)	0.801
Metformin	1.23(0.59,2.59)	0.584

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Abbreviations: RAP, recurrent acute pancreatitis; HR, Hazard ratio; CI, confidence interval; CCI, Charlson's comorbidity index

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