

**Supplemental Materials**

**Supplementary Table 1. Baseline characteristics of participants stratified according to fatty liver disease category**

	Overall	no FLD	NAFLD-only	MAFLD-only	Both FLD (NAFLD & MAFLD)	AFLD & non- MAFLD	P value
Number	701,664	510,726 (72.79)	11,612 (1.65)	31,795 (4.53)	145,936 (20.8)	1,595 (0.23)	
Age, years	39.81±10.92	38.79±10.62	39.84±9.93	42.09±10.02	42.86±11.55	40.49±9.72	<0.001
Men, %	368,824 (52.56)	223,528 (43.77)	7,622 (65.64)	29,287 (92.11)	107,083 (73.38)	1,304 (81.76)	<0.001
Current smoker, %	149,972 (21.37)	92,144 (18.04)	2,635 (22.69)	14,906 (46.88)	39,551 (27.1)	736 (46.14)	<0.001
High alcohol intake, %	86,110 (12.27)	55,597 (10.89)	0 (0)	29,139 (91.65)	0 (0)	1,374 (86.14)	<0.001
Higher education, %	410,818 (58.55)	301,299 (58.99)	7,315 (63)	19,122 (60.14)	82,107 (56.26)	975 (61.13)	<0.001
BMI, kg/m <sup>2</sup>	23.39±3.35	22.32±2.77	21.76±1.05	26.93±2.98	26.51±2.9	21.74±1.18	<0.001
Waist circumference, cm	80.69±9.86	77.4±8.41	78.3±4.92	91.83±7.57	89.5±7.72	79.39±4.92	<0.001
SBP, mmHg	111.88±14.04	109.46±13.44	109.31±11	120.98±13.09	118.57±13.55	111.33±11.34	<0.001

DBP, mmHg	71.69±10.14	69.98±9.67	70.5±8.39	78.75±9.98	76.24±9.82	72.71±8.54	<0.001
Fasting glucose, mg/dl	95.1±16.38	92.54±12.37	92.45±7.81	105.93±25.96	101.94±22.51	93.52±8.38	<0.001
HbA1c, %	5.55±0.56	5.46±0.42	5.45±0.27	5.8±0.83	5.8±0.79	5.4±0.26	<0.001
HbA1c mmol/L	8.94±0.99	8.76±0.97	9.15±0.95	9.7±0.74	9.38±0.87	9.41±0.88	<0.001
HOMA-IR	1.27 (0.83-1.9)	1.1 (0.74-1.57)	1.18 (0.83-1.62)	2.04 (1.39-2.96)	2.01 (1.39-2.94)	1.12 (0.77-1.55)	<0.001
ALT, U/l	19 (14-29)	17 (12-23)	22 (16-31)	34 (24-49)	31 (22-46)	25 (18-35)	<0.001
AST, U/l	21 (17-26)	20 (17-24)	22 (18-26)	27 (22-36)	25 (20-32)	23 (19-31)	<0.001
GGT, U/l	19 (13-34)	16 (11-25)	21 (15-32)	55 (35-91)	32 (22-51)	35 (23-61)	<0.001
HDL, mg/dL	58.11±14.82	61.18±14.78	56.48±12.5	50.71±11.99	49.06±10.83	61.08±15.69	<0.001
hs-CRP, mg/dL	0.04 (0.02 – 0.09)	0.04 (0.02 - 0.07)	0.04 (0.03 - 0.08)	0.08 (0.05 - 0.16)	0.08 (0.05 - 0.16)	0.05 (0.03 - 0.08)	<0.001
Triglycerides, mg/dl	94 (66-140)	82 (60-115)	100 (74-132)	162 (114-233)	145 (104-202)	106 (78-139)	<0.001
LDL, mg/dL	117.86±32.19	112.66±30.12	125.15±32.17	131.88±34	132.39±33.27	121.5±33.69	<0.001
Diabetes, %	32,399 (4.62)	11,480 (2.25)	0 (0)	4,301 (13.53)	16,618 (11.39)	0 (0)	<0.001

HTN, %	102,885 (14.68)	52,546 (10.3)	619 (5.33)	10,520 (33.12)	39,083 (26.81)	117 (7.34)	<0.001
History of CVD, %	16,694 (2.38)	10,688 (2.09)	265 (2.28)	774 (2.43)	4,941 (3.39)	26 (1.63)	<0.001
History of Dyslipidemia%	64,679 (9.22)	32,269 (6.32)	1,023 (8.81)	6,609 (20.79)	24,607 (16.86)	171 (10.72)	<0.001
Anti-HCV antibody, %	583 (0.08)	436 (0.09)	0 (0)	139 (0.44)	0 (0)	8 (0.5)	<0.001
HBV surface antigen, %	13,078 (1.86)	9,793 (1.92)	0 (0)	3,045 (9.58)	0 (0)	240 (15.05)	<0.001
Regular exercise, %	102,206 (14.57)	76,211 (14.92)	1,270 (10.94)	4,489 (14.12)	20,035 (13.73)	201 (12.6)	<0.001
Metabolic risk abnormalities							
1) Waist >90/80 cm	157,800 (27.85)	69,708 (17.07)	332 (3.54)	17,388 (61.57)	70,340 (58.96)	32 (2.25)	<0.001
2) BP >130/85/med	136,574 (19.46)	72,306 (14.16)	785 (6.76)	13,366 (42.04)	49,963 (34.24)	154 (9.66)	<0.001
3) TG >150 mg/dL	153,350 (21.86)	64,302 (12.59)	1,724 (14.85)	17,919 (56.36)	69,120 (47.36)	285 (17.87)	<0.001
4) HDL 40/50 mg/dL	78,899 (13.92)	40,667 (9.96)	515 (5.48)	5,101 (18.06)	32,584 (27.31)	32 (2.25)	<0.001

5) pre-diabetes	210,825 (36.2)	126,896 (30.06)	2,518 (26.33)	16,024 (56.39)	65,025 (53.82)	362 (25.37)	<0.001
6) HOMA-IR >2.5	59,878 (13.23)	19,307 (5.87)	137 (1.86)	8,755 (35.57)	31,659 (34.97)	20 (1.58)	<0.001
7) hsCRP >0.2 mg/L	49,004 (10.98)	26,814 (8.16)	293 (4.2)	3,929 (19.32)	17,923 (20.06)	45 (4.39)	<0.001

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Values are expressed as means  $\pm$  standard deviation, medians (interquartile range), or percentages. Abbreviations : FLD, fatty liver disease; NAFLD, non-alcoholic fatty liver disease; MAFLD, metabolic associated fatty liver disease; BMI, body mass index; SBP, systolic blood pressure; DBP, diastolic blood pressure; HbA1c, hemoglobin A1c; HOMA-IR, Homeostatic model assessment of insulin resistance; AST, aspartate aminotransferase; ALT, alanine aminotransferase; GGT, gamma-glutamyl transferase; HDL, high density lipoprotein cholesterol; hs-CRP, highly sensitive C-reactive protein; HTN, hypertension; CVD, cardiovascular disease; HCV, hepatitis C virus; HBV, hepatitis B virus; BP, blood pressure; TG, triglycerides.

**Supplementary Table 2. Incident cardiovascular mortality according to fatty liver disease category (n=701,664)**

	number	PY	event	Mortality Rate (95% CI)	Crude (HR)	Model 1 (HR)	Model 2 (HR)
Total		6,543,785.1	1,299	1.99 (1.88 - 2.1)			
no FLD	510,726 (72.79)	4,803,746.1	818	1.7 (1.59 - 1.82)	1 (reference)	1 (reference)	1 (reference)
NAFLD-only	11,612 (1.65)	109,053.86	12	1.1 (0.62 - 1.94)	0.65 (0.36-1.14)	0.67 (0.38-1.18)	0.67 (0.38-1.19)
MAFLD-only	31,795 (4.53)	254,224.79	83	3.26 (2.63 - 4.05)	2.11 (1.69-2.65)	1.35 (1.07-1.70)	1.35 (1.07-1.70)
Both FLD (NAFLD & MAFLD)	145,936 (20.8)	1,364,264.1	380	2.79 (2.52 - 3.08)	1.63 (1.44-1.84)	1.09 (0.97-1.23)	1.10 (0.97-1.24)
AFLD & non- MAFLD	1,595 (0.23)	12,496.24	6	4.8 (2.16 - 10.69)	3.18 (1.42-7.10)	1.91 (0.85-4.27)	1.90 (0.85-4.24)

Model 1 : Adjusted for age, sex, education, smoking, regular exercise (3 times/week)

Model 2 : Adjusted for age, sex, education, smoking, regular exercise (3 times/week), and plasma LDL-cholesterol

*Abbreviations:* PY, person-year; CI, confidence interval; HR, hazard ratio; MAFLD, metabolic dysfunction-associated fatty liver disease; NAFLD, non-alcoholic fatty liver disease; FLD, fatty liver disease; AFLD, alcoholic fatty liver disease.