Supplementary Figure 1. Enrollment Flow Diagram

Study Procedures

We identified all Veterans aged 20 to 69 years who were enrolled for primary medical care at MEDVAMC using the VA Corporate Data Warehouse (CDW). Within this sampling frame, we then excluded patients with suspected alcohol use disorder (defined as AUDIT-C scores ≥4 points within 2 years of study-related screening) or active/history of viral hepatitis B (HBV) or C (HCV) based on laboratory values in the VA medical records. Among the remaining eligible patients, we employed a random stratified sampling strategy that included: (1) stratifying according to sex and 10-year age-group (male 20-29, male 30-39, female 20-29, etc.); and (2) performing random selection without replacement and with equal allocation from each stratum (Supplementary Figure 1). Between February 2018 and August 2021, we screened the electronic medical records of 2437 randomly selected patients and identified 1510 who fulfilled the study inclusion and exclusion criteria (330 were excluded for alcohol intake, 25 for HBV, 61 for HCV, 4 for hepatocellular carcinoma [HCC], 2 for metastatic cancer [not HCC], 51 with other active cancer [1 had HCC], 28 for alcoholic cirrhosis [9 of whom were also counted as alcohol abusers], 126 lived too far from Houston, 124 were not seen at MEDVAMC, 62 had not had a primary care appointment in 2 years, 69 were not Veterans, 17 were deceased, 21 had behavioral or physical limits to their ability to participate, 19 had active infections, and 27 were homeless or otherwise unreachable). At the time of this analysis, we had sent 1314 of these eligible patients an invitation letter asking for permission to contact and then contacted by phone those who did not opt-out and invited them to participate in-person; 29 could not be contacted due to bad addresses. Of 930 patients that we contacted by phone and/or received
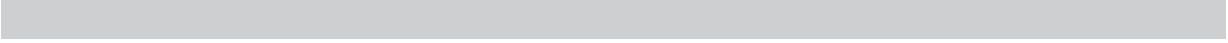
correspondence back via mail, a total of 630 patients opted-out (55 opted out by mail vs. 570 on the phone, while 4 opted out in person prior to any study-related activities, 1 consented participant withdrew later) and the other 300 consented (participation rate, 32.3%). For patients who were interested in participating, an in-person appointment was made during which the inclusion and exclusion criteria were verified, consent obtained, and participants completed a survey of lifestyle and medical history, provided a blood sample for research, and underwent a liver Fibroscan.

Patient Survey

All participants completed an Research Assistant (RA)-administered survey before the study Fibroscan. The survey ascertained information about age, sex, race/ethnicity, education, lifetime and current use of alcohol and smoking, physical activity, personal and family medical history, and use of medications. We calculated body mass index (BMI; kg/m2) from height (cm) and weight (kg) measurements at study enrolment.

Biochemical Analysis

A certified phlebotomist collected a blood sample from each participant for several tests including creatinine, albumin, total bilirubin, alkaline phosphatase, alanine aminotransferase (ALT), aspartate aminotransferase (AST), glucose, total cholesterol, low-density lipoprotein (LDL) cholesterol, high-density lipoprotein (HDL) cholesterol, triglycerides (TG), complete blood count including platelet count, iron saturation, hemoglobin A1c (HbA1c), and HBV and HCV infections. All biochemical assessments
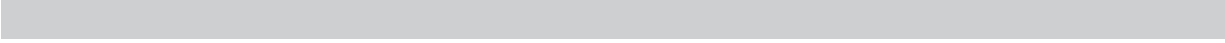
were performed by standard laboratory methods at the MEDVAMC central clinical

laboratory.

Supplementary Table 1. Characteristics of participants with and without NAFLD, where steatosis is defined as CAP median >275 dB/m

Variable	Total (N=202) N (%)	NAFLD status		p-value
		NAFLD (N=96) N (%)	No NAFLD (N=106) N (%)	
Age, years: mean (SD)	50.9 (12.0)	53.2 (11.0)	48.8 (12.5)	0.01¥
Sex				0.04
Female	112 (55.4%)	46 (47.9%)	66 (62.3%)	
Male	90 (44.6%)	50 (52.1%)	40 (37.7%)	
Race/Ethnicity				0.50
Non-Hispanic white	69 (34.2%)	38 (39.6%)	31 (29.3%)	
Non-Hispanic Black	83 (41.1%)	36 (37.5%)	47 (44.3%)	
Hispanic	32 (15.8%)	15 (15.6%)	17 (16.0%)	
Other	17 (8.4%)	7 (7.3%)	10 (9.4%)	
Missing	1 (0.5%)	0 (0.0%)	1 (0.9%)	
Smoking status				0.49‡
Never	122 (60.4%)	60 (62.5%)	62 (58.5%)	
Former	54 (26.7%)	27 (28.1%)	27 (25.5%)	
Current	25 (12.4%)	9 (9.4%)	16 (15.1%)	
Missing	1 (0.5%)	0 (0.0%)	1 (0.9%)	
Alcohol status				0.42‡
Never/Rarely	68 (33.7%)	37 (38.5%)	31 (29.3%)	
Former	18 (8.9%)	8 (8.3%)	10 (9.4%)	
Current	115 (56.9%)	51 (53.1%)	64 (60.4%)	
Missing	1 (0.5%)	0 (0.0%)	1 (0.9%)	
Alcohol (average drinks/day for current drinkers)	0.35 (0.40)	0.30 (0.40)	0.40 (0.40)	0.37¥
Rarely	1 (0.9%)	0 (0.0%)	1 (1.6%)	0.85‡
<1 drink/day	106 (92.2%)	48 (94.1%)	58 (90.6%)	
1-<2 drinks/day	8 (6.9%)	3 (5.9%)	5 (7.8%)	
Diabetes (self-report)	51 (25.3%)	36 (37.5%)	15 (14.2%)	<0.01
Body mass index (kg/m^2)				
Mean (SD)	31.6 (6.2)	34.9 (5.6)	28.7 (5.1)	<0.01¥
<25	30 (14.8%)	1 (1.0%)	29 (27.4%)	<0.01
25-<30	63 (31.2%)	21 (21.9%)	42 (39.6%)	
≥30	109 (54.0%)	74 (77.1%)	35 (33.0%)	
Dyslipidemia	76 (37.6%)	48 (50.0%)	28 (26.4%)	<0.01
Triglycerides, mg/dL: mean (SD)	141.7 (92.0)	164.2 (94.7)	120.9 (84.7)	<0.01¥
HDL, mg/dL: mean (SD)	50.7 (15.4)	46.4 (13.7)	54.7 (15.8)	<0.01¥
LDL, mg/dL: mean (SD)	110.3 (36.9)	105.4 (37.8)	114.9 (35.7)	0.07
Total cholesterol, mg/dL: mean (SD)	186.8 (42.0)	180.8 (41.4)	192.4 (42.0)	0.06
Glucose, mmol/L: mean (SD)	113.0 (54.4)	124.8 (64.2)	101.9 (40.6)	<0.01¥
HbA1c: mean (SD)	6.3 (1.5)	6.7 (1.6)	5.9 (1.3)	<0.01¥
AST, IU/L: mean (SD)	25.1 (10.7)	26.1 (10.4)	24.2 (11.1)	0.05¥
ALT, IU/L: mean (SD)	27.5 (14.6)	31.3 (16.1)	23.8 (12.0)	<0.01¥
Albumin, IU/L: mean (SD)	4.0 (0.3)	4.0 (0.3)	4.0 (0.3)	0.84
Platelet count, (10^9/L): mean (SD)	260.7 (67.5)	271.0 (77.1)	251.2 (55.8)	0.04
Hypertension (self-report)	91 (45.1%)	53 (55.2%)	38 (35.9%)	<0.01‡
Fibroscan E Median score >7	9 (4.5%)	8 (8.3%)	1 (0.9%)	0.01‡

MAFLD	96 (47.5%)	96 (100.0%)	0 (0.0%)	<0.01

‡P-value from Fisher's exact test; ¥P-value from Mann-Whitney U test.

Table 2. Odds ratios and 95% confidence intervals for associations with risk of NAFLD/MAFLD, where steatosis is defined as CAP median >275 dB/m

Variable	Unadjusted OR (95% CI)		Adjusted OR (95% CI)		Adjusted OR (95% CI)
Age >50	2.20 (1.25-3.88)		1.61 (0.77-3.37)		1.20 (0.60-2.41)
Male	1.79 (1.02-3.14)		2.55 (1.16-5.57)		1.76 (0.88-3.49)
Race/Ethnicity (ref: Non-Hispanic white)					
Non-Hispanic Black	0.63 (0.33-1.19)		0.46 (0.21-1.02)		0.51 (0.24-1.08)
Hispanic	0.72 (0.31-1.67)		0.48 (0.16-1.39)		0.47 (0.17-1.30)
Other	0.57 (0.20-1.68)		0.47 (0.12-1.82)		0.44 (0.12-1.57)
Current Smoker	0.58 (0.24-1.39)				
Current Drinker	0.74 (0.43-1.30)				
Obese	6.82 (3.65-12.75)		7.46 (3.65-15.23)		
Diabetes	3.64 (1.84-7.22)		2.82 (1.21-6.54)		
Dyslipidemia	2.79 (1.55-5.02)		1.62 (0.77-3.44)		
Hypertension	2.17 (1.23-3.83)		1.30 (0.62-2.72)		
Sum of Metabolic Traits					
1	2.34 (0.89-6.19)				2.62 (0.96-7.13)
2	4.39 (1.63-11.82)				4.85 (1.71-13.71)
3 or 4	25.13 (8.27-76.40)				26.67 (8.04-88.46)

CI, confidence interval; IR, odds ratio.

Table 3. Characteristics of participants with and without moderate hepatic fibrosis, where LSM ≥8 kPa was used to define at least moderate hepatic fibrosis

Variable	At least moderate fibrosis (N=9) N (%)	Less than moderate fibrosis (N=133) N (%)	p-value
Age, years: mean (SD)	52.4 (12.5)	50.8 (12.0)	0.69¥
Sex			0.19‡
Female	3 (33.3%)	109 (56.5%)	
Male	6 (66.7%)	84 (43.5%)	
Race/Ethnicity			
Non-Hispanic white			0.46‡
Non-Hispanic Black	3 (33.3%)	66 (34.2%)	
Hispanic	6 (66.7%)	77 (39.9%)	
Other	0 (0.0%)	32 (16.6%)	
Missing	0 (0.0%)	17 (8.8%)	
Smoking status			0.44‡
Never	5 (55.6%)	117 (60.6%)	
Former	4 (44.4%)	50 (25.9%)	
Current	0 (0.0%)	25 (13.0%)	
Missing	0 (0.0%)	1 (0.5%)	
Alcohol status			0.34‡
Never/Rarely	2 (22.2%)	66 (34.2%)	
Former	2 (22.2%)	16 (8.3%)	
Current	5 (55.6%)	110 (57.0%)	
Missing	0 (0.0%)	1 (0.5%)	
Alcohol (average drinks/day for current drinkers)	0.2 (0.2)	0.4 (0.4)	0.48¥
Rarely	0 (0.0%)	1 (0.9%)	1.00‡
<1 drink/day	5 (100.0%)	101 (91.8%)	
1-<2 drinks/day	0 (0.0%)	8 (7.3%)	
Diabetes	4 (44.4%)	47 (24.4%)	0.23‡
Body mass index (kg/m^2)			
Mean (SD)	36.6 (7.1)	31.4 (6.1)	0.03¥
<25	1 (11.1%)	29 (15.0%)	0.06‡
25-<30	0 (0.0%)	63 (32.6%)	
≥30	8 (88.9%)	101 (52.3%)	
Dyslipidemia	9 (100.0%)	67 (34.7%)	<0.01‡
Triglycerides, mg/dL: mean (SD)	161.8 (57.0)	140.9 (93.3)	0.16¥
HDL, mg/dL: mean (SD)	34.2 (9.1)	51.4 (15.2)	<0.01¥
LDL, mg/dL: mean (SD)	104.8 (36.0)	110.6 (37.0)	0.68¥
Total cholesterol, mg/dL: mean (SD)	170.9 (41.3)	187.5 (42.0)	0.32¥
Glucose, mmol/L: mean (SD)	155.6 (79.1)	111.0 (52.4)	0.19¥
HbA1c: mean (SD)	7.6 (2.0)	6.3 (1.5)	0.06¥
AST, IU/L: mean (SD)	40.8 (20.2)	24.4 (9.5)	<0.01¥
ALT, IU/L: mean (SD)	42.7 (21.2)	26.7 (13.8)	0.01¥
Albumin, IU/L: mean (SD)	3.9 (0.3)	4.0 (0.3)	0.33¥
Platelet count, (10^9/L): mean (SD)	224.1 (38.9)	262.5 (68.1)	0.09¥
Hypertension	3 (33.3%)	88 (45.6%)	0.54‡
MAFLD/NAFLD	8 (88.9%)	88 (45.6%)	0.01‡

‡P-value from Fisher's exact test. ¥P-value from Mann-Whitney U test.