Supplemental Table 1: Equations for calculation of non-invasive fibrosis models

MODELS	FORMULA
APRI	$= \frac{AST/ULN^{*}}{Platelet\ count\ (10^9/L)} \times 100$
AST to ALT Ratio	$= AST/ALT$
FIB-4	$= \frac{Age(yr) \times AST(U/L)}{Platelet\ count(10^9/L) \times \sqrt{ALT(U/L)}}$
NAFLD Fibrosis Score	$= -1.675 + 0.037 \times Age(yr) + 0.094 \times BMI(kg/m^2) + 1.13 \times [IFG/diabetes = yes] + 0.99 \times AST/ALT\ ratio - 0.013 \times platelet(10^9/L) - 0.66 \times albumin(g/dL)$

* We used 31 U/L for male and 19 U/L for female.

Supplemental Table 2: Change in non-invasive models as a function of fibrosis

	Change in fibrosis stage†			*p*-value‡	
	Regression (*n* = 74)	No change (*n* = 126)	Progression (*n* = 92)	Regres-sion vs. no change	Progres-sion vs. no change
Change in diagnostic model scores (mean)					
APRI score	-0.3 (±0.8)	-0.2 (±0.7)	0.2 (±1.3)	0.34	0.006
FIB-4 score	0.0 (±0.5)	0.1 (±0.7)	0.5 (±1.3)	0.61	<0.001
AST/ALT ratio	0.1 (±0.2)	0.0 (±0.2)	0.1 (±0.3)	0.002	0.001
NAFLD Fibrosis Score	0.5 (±0.7)	0.4 (±1.0)	0.7 (±1.0)	0.83	0.02

† Regression = any decline in fibrosis stage; no change = no change in fibrosis stage; progression = any increase in fibrosis stage.

‡ *P*-values obtained from ANOVA comparing: the regression group with the no change group among patients with fibrosis stage 1-4 (*n* = 164); and the progression group with the no change group among patients with fibrosis stage 0-3 (*n* = 210).

Supplemental Table 3: Change of fibrosis stage from the first to the second biopsies

		Second fibrosis stage					Total
		0	1	2	3	4	
Initial fibrosis stage	0	36	16	8	2	0	62
	1	26	32	19	7	1	85
	2	6	19	19	22	3	69
	3	0	10	11	31	14	66
	4	0	0	0	2	8	10
Total		68	77	57	64	26	292

Supplemental Table 4: Diagnostic performance of FIB4 and NFS at previously published[1] cutoffs for advanced fibrosis† (*n* = 1,904)

Fibrosis Model	C-statistic (95% CI)	At lower cutoff					At upper cutoff				
		Model score cutoff‡	Sens. (%)	Spec. (%)	PPV (%)	NPV (%)	Model score cutoff§	Sens. (%)	Spec. (%)	PPV (%)	NPV (%)
FIB-4	0.80 (0.78, 0.82)	1.30	77	67	48	88	2.67	28	97	78	77
NFS	0.78 (0.76, 0.80)	-1.457	83	55	42	89	0.679	30	95	71	78

CI, confidence interval; NPV, negative predictive value; PPV, positive predictive value; sens., sensitivity; spec. specificity.

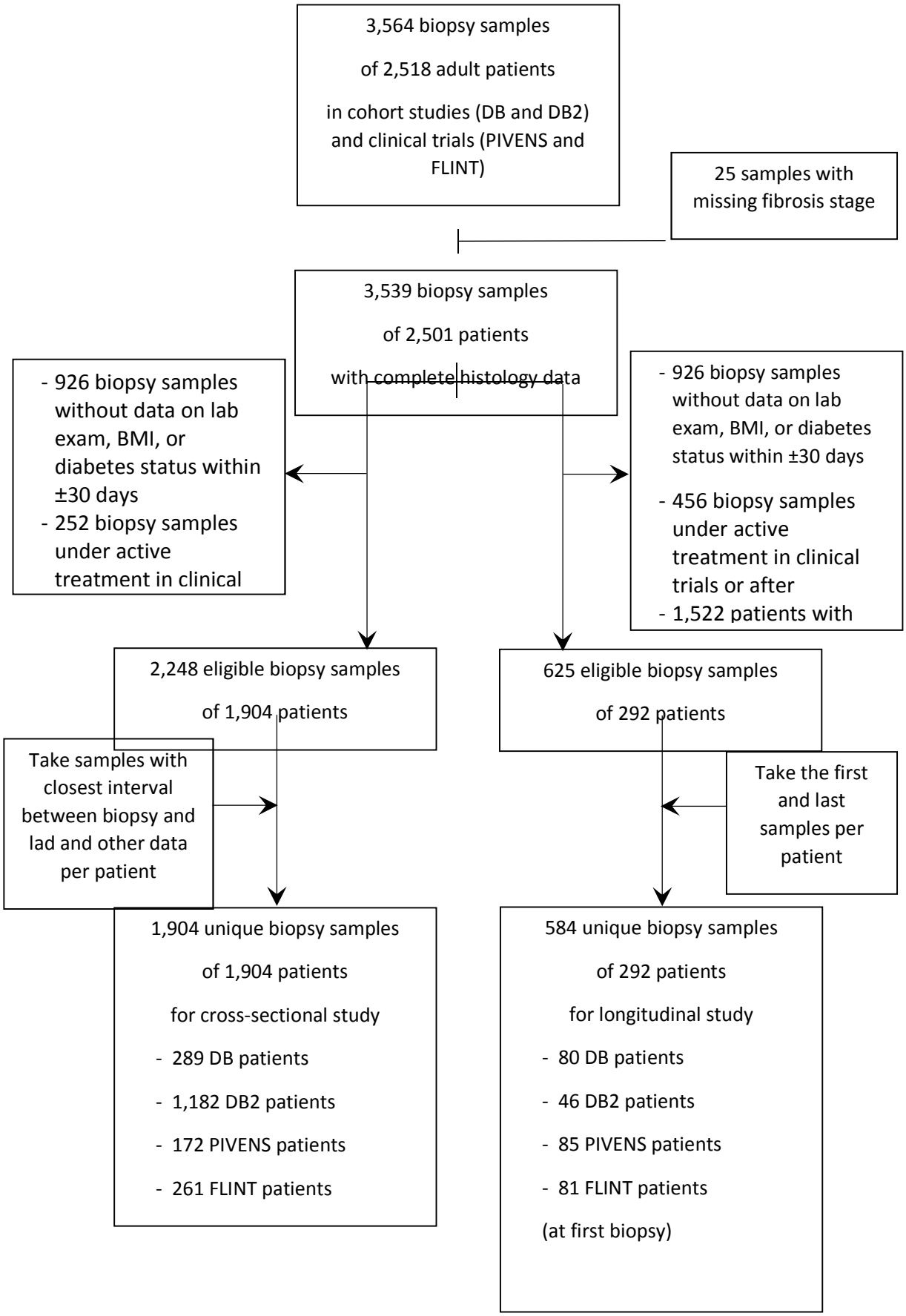
† Prevalence of advanced fibrosis was 28%.

‡ Fixed at a cutoff closest to and smaller than the recommended cutoff.

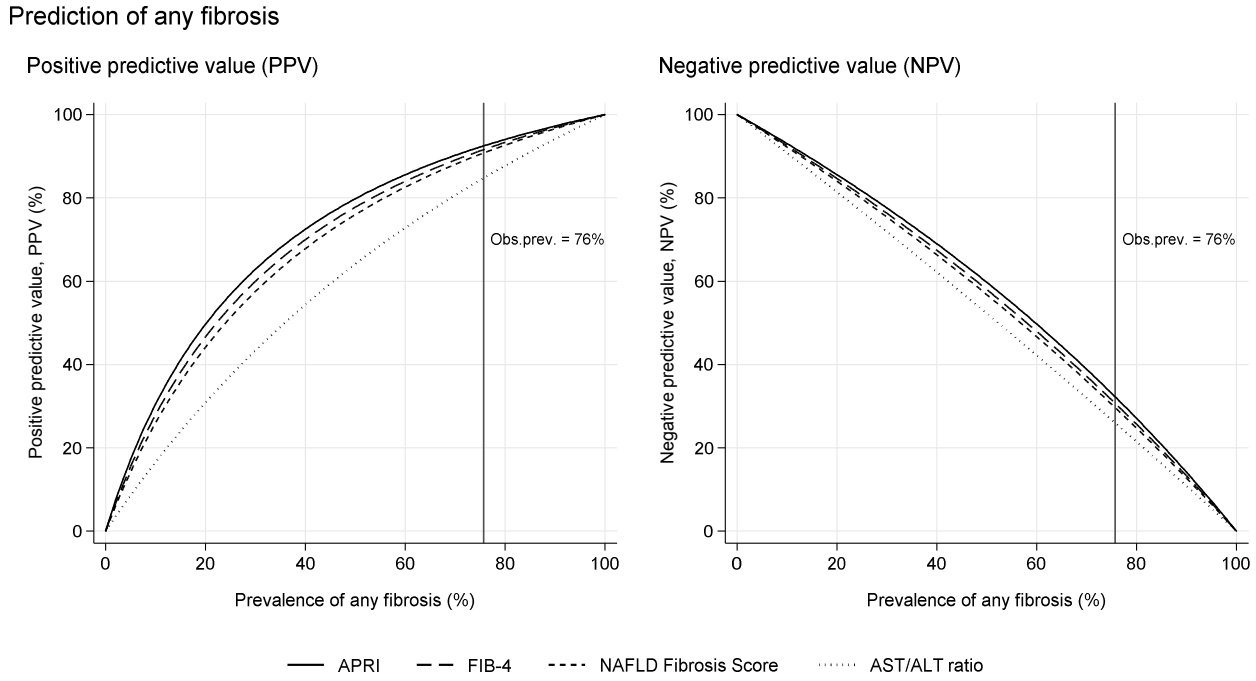
§ Fixed at a cutoff closest to and larger than the recommended cutoff.

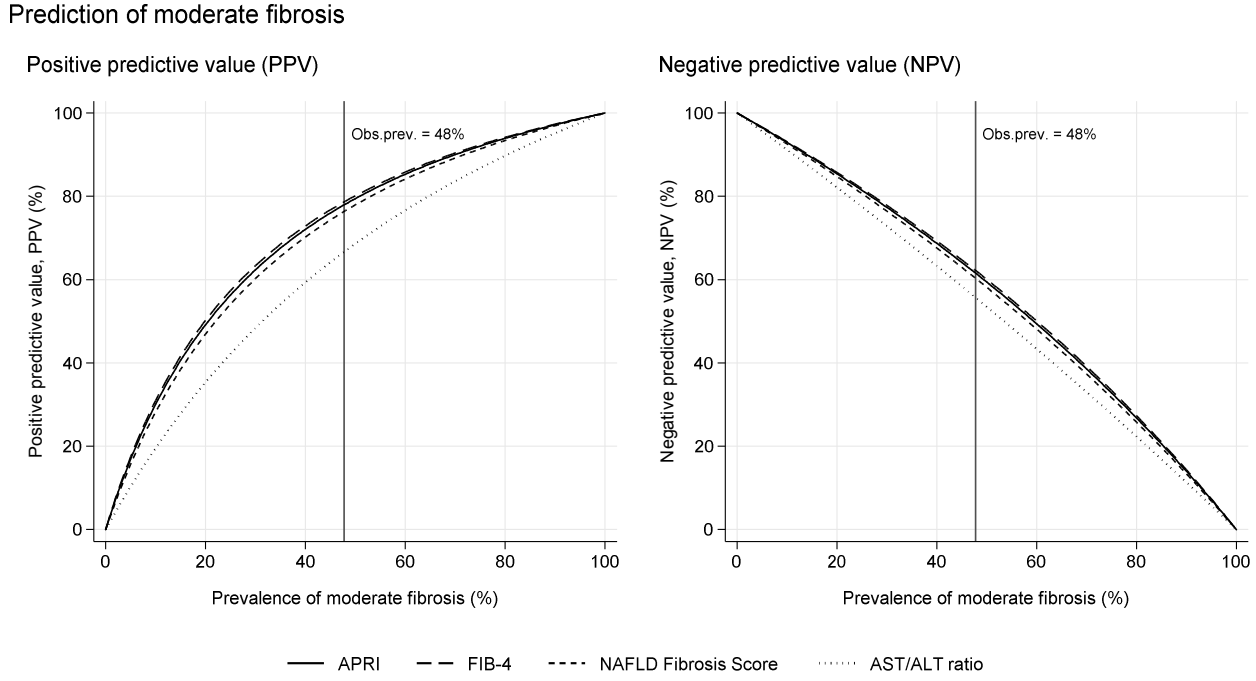
1. Shah AG, Lydecker A, Murray K, et al. Comparison of noninvasive markers of fibrosis in patients with nonalcoholic fatty liver disease . Clin Gastroenterol Hepatol 2009;7:1104–1112.

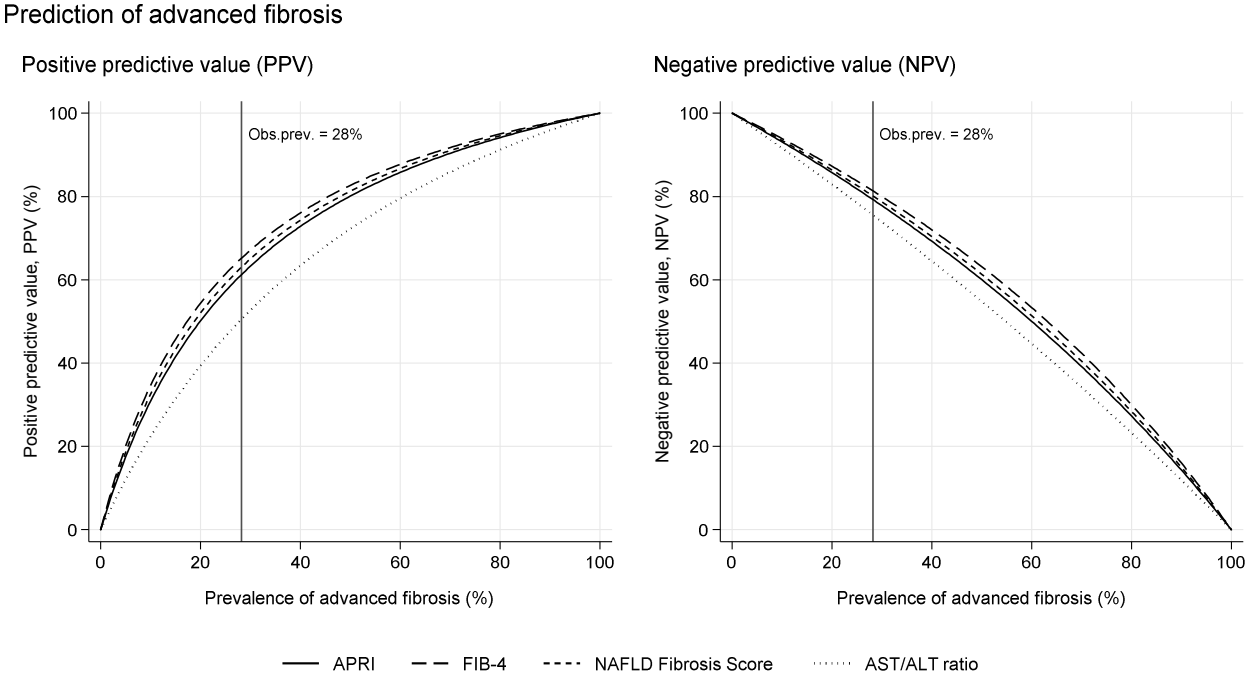
Supplemental Figure 1: Consortium figure of patients in the NASH-CRN



Supplemental Figure 2: Positive and negative predictive values (PPV and NPV) of the diagnostic model at the fixed specificity of 90% at varying proportion of patients with fibrosis (*n* = 1,904)







PPV and NPV were calculated using the following formulas:

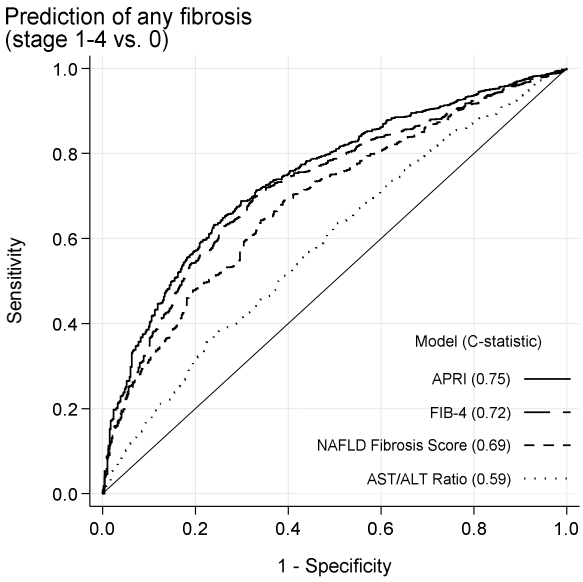
$$PPV = \frac{TP}{TP + FP} = \frac{D^+ \cdot Sens}{D^+ \cdot Sens + D^-(1 - Spec)} = \frac{Prev \cdot Sens}{Prev \cdot Sens + (1 - Prev)(1 - Spec)}$$

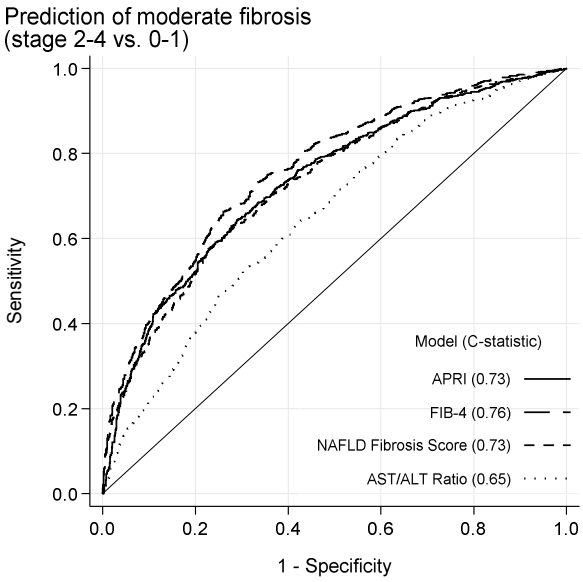
$$NPV = \frac{TN}{TN + FN} = \frac{D^- \cdot Spec}{D^- \cdot Spec + D^+(1 - Sens)} = \frac{(1 - Prev)Spec}{(1 - Prev)Spec + Prev \cdot (1 - Sens)}$$

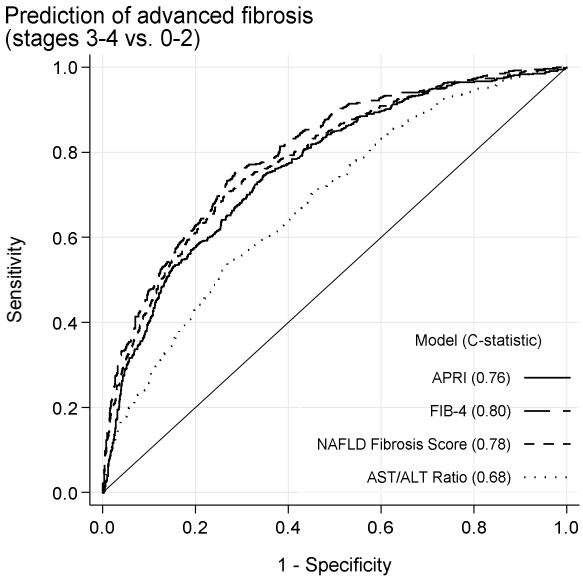
where

$D^+ =$ disease positive; $D^- =$ disease negative;
$FN =$ false negative; $FP =$ false positive; $TN =$ true negative; $TP =$ true positive;
$Prev =$ prevalence; $Sens =$ sensitivity; $Spec =$ specificity

Supplemental Figure 3: Positive and negative predictive values (PPV and NPV) of the diagnostic model at the fixed specificity of 90% at varying proportion of patients with fibrosis (*n* = 1,904)







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